

## CHAPTER 6

### Main Libraries

#### 6-1 GENERAL

##### a. REFERENCES

(1) AR 28-1 Army Recreation Services in the primary directive for main post libraries is contained in this document.

(2) The DOD 4270.1-M Construction Criteria Manuals provides maximum space allowances based on the authorized projected military strength of using installations.

b. OBJECTIVES OF MAIN LIBRARIES PROGRAM. The primary objectives of the main library program are to promote use of information media for recreation, information, and education; and to support education and training programs. The main library has functions which are similar to both public and academic libraries. As a public library, it provides encouragement and assistance to patrons, especially newcomers, to develop and explore their interests. Users who come for specific material should find it easily. Users who enter without a specific purpose should find items of current interest on display, and librarians to provide the help they need. As an academic library, it provides convenient access to reference and reserve materials for educational and mission-related requirements. It provides all users with quiet, comfortable reading and study accom-

modations. The main library is the hub of the entire post library system, and normally houses administrative offices and technical services, which support the main collection, branch libraries, field libraries, and bookmobiles.

#### 6-2 PLANNING AND DESIGN CONSIDERATIONS

a. LIBRARY USERS. Users include the entire military community, including active and retired military personnel and their dependents. Civilian employees of the post may have borrowing privileges for work-related usage.

##### b. THE COLLECTION

(1) *The Basic Collection*. The total book stock for each Army installation library system can be provided by the librarian in charge, and should be requested during the initial stage of planning. According to AR 28-1, such a post system collection should comprise at least three volumes per capita based on military strength. Post collections may considerably exceed this basic criterion, however. Table 6-1 illustrates typical compositions of the basic collection (bound volumes of adult fiction, nonfiction and reference) for central main post libraries at installations of various strengths. The sizes of facilities shown correspond to the maximum areas allowed by DOD for each installation strength.

TABLE 6-1 COMPOSITION OF THE BASIC COLLECTION

Size of Facility (GSF)	6,250	10,500	18,000	20,800	24,000	30,000
Fiction	3,700- 5,600	6,600- 11,400	14,400- 19,200	18,000- 21,000	21,000- 23,000	24,000- 26,000
Non-Fiction	4,950- 7,500	8,460- 14,950	18,720- 25,200	23,400- 27,300	27,300- 30,700	31,200- 33,900
Reference	600- 900	1,440 2,160	2,880- 3,600	3,600- 4,200	4,200- 4,800	4,800- 5,100
Total Books (Working Capacity)	9,250- 14,000	10,500- 18,500	36,000- 48,000	45,000- 52,500	52,500- 58,500	60,000- 65,000
Minimum Annual Additions	1,100	1,850	3,100	3,600	4,600	6,500

(2) *Children's Collection.* The size of the children's collection depends on the number of children on the post. Children's requirements may increase total volumes by as much as 1/3 over the basic collection. For example, in a library system of 60,000 adult volumes at a post with a high dependent population, the children's collection may contain 20,000 volumes. Other posts may require no children's collection. The children's collection may be located entirely in the main library, or in a branch library, near the family housing area, or distributed throughout the system. Paragraph 6-3.a(1) shows recommended sizes of collections for various sizes of facilities and post populations.

(3) *Auxiliary Materials.* According to AR 28-1, "Libraries will maintain a varied, authoritative collection of current and retrospective reading and audio-visual materials encompassing various reading levels, interests and cultural background of personnel served; mission related technical publications; and materials required for education support and career advancement". Therefore the basic collection will be supplemented by a variety of auxiliary materials, including, but not limited to: periodicals, paperbacks, records, tapes, microforms, maps, and prints.

(a) *Periodicals.* The periodical collection will typically include three to four hundred separate current periodicals titles, depending on the specific subject interests and missions to be supported; and at least ten newspaper titles, including national, local, specialized, and military publications.

(b) *Paperbacks.* Paperbound books will generally be shelved with the regular collection, or displayed in separate racks such as those found in bookstores.

(c) *Records.* LP sound recordings may be shelved in oversize (13 inch minimum depth) shelves or in bins like those found in record stores. If the library has a central sound system, records may be stored behind the control desk convenient to the playback console.

(d) *Tapes.* Cartridges and cassettes will be stored in cabinets. Tape storage is preferably located near or behind the control desk.

(e) *Microforms.* Microfilms of newspaper runs or microprint of U.S. Government documents are housed in the periodicals area in cabinets with long shallow drawers permitting the housing of spool films in individual cardboard boxes.

(f) *Maps.* Maps will be located in the reference area. Sheet maps are usually stored in plan files; folded maps may be kept in vertical files.

(g) *Art Prints.* Frames or unframed circulating prints will be stored and displayed near the control area.

(4) *Extension Collection.* The Extension Department extends library services and materials beyond the main library by means of branch libraries, mobile units, field library units, and paperback book outlets. The extension

collection in the main library is devoted primarily to the bookmobiles. Each bookmobile typically carries 3,000 volumes, has 1,000 volumes in circulation, and has an uncirculated back-up collection of 6,000 volumes, for a total of 10,000 volumes. The extension librarian is also the supervisor of branch libraries, so books belonging to the branches may be stored in the extension area.

c. **COMMUNITY PROGRAM.** Ideally, the main library serves as a focus of recreational and cultural activity on the post. Space should be provided to accommodate meetings of clubs, committees, discussion groups, and small conferences. Provisions should be made for the showing of films and slides in this space.

d. **STAFF.** The staff requirement depends upon the library size, which is based upon the post population; however, the staffing of large library facilities will vary, since the total population served may vary considerably. The staffing figures shown in Table 6-2 are typical examples. Staffing requirements for individual projects should be developed by the administrative librarian and furnished to the design agency.

TABLE 6-2 STAFFING

GSF (Max)	Professionals		Non-Professionals		Total
	Librarian	Library Tech- nician	Clerk Typist	Ware- house- Man	
6,250	1	1	—	—	2
10,500	2	3	—	—	5
18,000	2	4	1	—	7
20,800	3	4	1	—	8
24,000	4	5	2	—	11
30,000	6	6	3	1	16
(serving up to 40,000)					
30,000	8	8	4	1	21
(serving up to 50,000)					

e. **SITE SELECTION.** The following are desirable characteristics for a main library site.

(1) Central to post and close to shopping, recreational, and educational facilities for convenience of users.

(2) Readily accessible from the main post entrance for use by off-post personnel.

(3) Closer to enlisted than to officer's quarters since many enlisted personnel do not have the use of automobiles.

(4) Adjacent to other primarily night-use facilities, or in conjunction with the Community Center

(5) Near the General Education Development Center to promote joint use of facilities.

## f. PLANNING THE BUILDING

(1) *Programming Requirements.*

(a) *General.* Chapter 3 of DOD 4270.1-M sets forth space allowance criteria which should be utilized in determining the size of the library. Table 6-3 gives the maximum space allowed as a guide for preparation of DD Form 1391. Column 1 indicates the aggregate military strength of the post from which space allowances are established. Column 2 shows the maximum GSF allowed for each military strength. These allowances may be increased by 10 percent where the facility is designated as a command reference center. If bookmobiles are operated, a minimum of 300 square feet per bookmobile may be added for storing the bookmobile collection, book trucks, and workspace for the bookmobile staff. These space allowances include provisions for an installation technical services department for centralized processing of library materials. The actual space requirements (see Para 2-3a) should be estimated using this guide, and the appropriate figures should be entered under Gross Area (Item 18.f), Primary Facility (Item 20.a) and total Requirement (Item 23a) of DD Form 1391. Column 3 is an approximation of the mechanical space required to heat and air condition each size of building in a moderate climate. A more accurate estimate of the mechanical area should be performed by a mechanical engineer and entered separately under Primary Facility (Item 20.b) as "Mech Room". Column 4 shows the total size of the project resulting from adding columns 2 and 3. A corresponding figure obtained from the addition of the actual requirements should be entered under Primary Facility on the top line of Item 20 of DD Form 1391. "Standard Design" (Item 17a) should be checked and "DG 1110-3-110" should be entered under Drawing Number (Item 17.c). See AR 415-15 for complete instructions on completing DD Form 1391.

(b) *Total Building Space Requirements.* The sum of the NASF requirements multiplied by 1.15 to allow for core area is the required gross area (GSF). GSF must not exceed the figure given in column 2 of Table 6-3, modified to include appropriate space increases as indicated in Paragraph 6-2.f(1)(a), example for a 22,000 military strength post, with a requirement for a bookmobile.

Total Actual NASF requirement	25,652 NASF
Core Area (15%)	3,848 SF
Total Actual Space Requirement	29,500 GSF
Table 6-3 allowance for 22,000 military strength	30,000 GSF
Allowance for Bookmobile collection	810 GSF
Total Authorized Allowance	30,810 GSF

**TABLE 6-3 MAXIMUM SPACE ALLOWANCE FOR MAIN LIBRARIES**

Military Strength	Gross Area	Approx Mech Space	Total Program Requirement
up to 500	2,500	250	2,750
501 to 1,500	4,500	400	4,900
1,501 to 2,500	6,250	500	6,750
2,501 to 4,000	8,000	560	8,560
4,001 to 6,000	10,000	600	11,150
6,001 to 8,000	12,000	650	12,600
8,001 to 12,000	18,000	700	18,700
12,001 to 16,000	20,800	830	21,630
16,001 to 20,000	24,000	960	24,960
20,001 to 26,000	30,000	1,200	31,200
26,001 to 32,000	36,000	1,300	37,300
32,001 to 40,000	44,000	1,400	45,400
40,001 to 50,000	54,000	1,700	55,700
50,001 to 60,000	64,000	2,000	66,000

The actual space requirement is less than the authorized allowance; therefore, use 29,500 GSF and enter this figure under "Quantity" on DD Form 1391. Enter the estimated size of mechanical room on Item 20.a.

(c) *Actual Space Requirements.* It is the responsibility of the using service to determine how much space will be required for an individual facility. Table 6-3 depicts maximum space allowances, not actual space requirements. The actual space requirements depend on the size and composition of the actual collection, and the number and type of necessary seating accommodations. Both of these factors are affected by the projected size and mission of the post and by the availability of library materials from other nearby sources. The librarian must consider a number of factors that affect the library planning. Existing and future use patterns should be carefully analyzed since the age and use habits of patrons will be a strong determinant of the library plan. The main library is used by both Army personnel and by dependents. On an average installation the total population served is approximately twice the military strength. If the primary post mission is small, the number of dependents will be small; and the children's area should be correspondingly small. Posts with many branch libraries may require additional space in the extension and technical services areas. These and other factors must be thoroughly researched in the initial planning stage.

(2) *Grouping of Related Spaces.* The space requirements developed in conjunction with Paragraph f-1.b. have various uses and adjacency relationships related to the need to combine separate activities, each circulation and develop an efficient daily operation. In the main library, it is desirable to consider spaces under three main headings as follows:

**GENERAL USE SPACES**

- Entrance and Lobby
- Multi-Purpose Room
- Public Toilets

**PUBLIC SERVICES SPACES**

- Public Card Catalog
- Control Area
- Reference Area
- Periodicals Area
- Children's Area
- Stack Area
- Reading and Study Areas
- Typing and Listening Booths

**STAFF SPACES**

- Administrative Librarian
- Post (Supervisory) Librarian
- Extension Collection
- Technical Services
- Shipping and Receiving
- Staff Lounge
- Staff Washrooms and Lockers
- Janitor's Closet
- Bookmobile Garage

(3) *Joint Use Facility.* It may be advantageous to combine the main library with the General Education Development Center. The meeting rooms, public toilets, lobby, and entrance could be shared for more efficient space utilization.

(4) *Intercom.* As intercom should be provided between the following librarians' work stations: administrative, post, technical services, extension services, reference, and the control desk.

(5) *Music and Paging System.* Music should be playable from the control desks with individual room control of remote speakers. The speaker system should also be usable for announcements and paging.

(6) *TV Jacks.* TV jacks should be provided for reception of local channels or closed circuit broadcasts.

(7) *Central Vacuum.* Central vacuum cleaning facilities should be provided in areas indicated in Table 6-25.

g. **PARKING.** A maximum of one parking space per 500 square feet of library, which equals 60 spaces for a 30,000 square feet library, should be provided. The parking spaces should be distributed to accommodate staff, user and service vehicles. Parking for bicycles and motorcycles should be provided. One parking space for the handicapped is required for the first 20 parking spaces and one for each 50 spaces thereafter. A minimum of two spaces shall be provided. These spaces must have barrier-free access into the building without requiring persons to travel behind parked cars or across driveways. Limit of travel is 100 feet to main entrance.

**6-3 INDIVIDUAL SPACE CRITERIA**

Individual space criteria which is general to all library types is provided in Chapter 4. The criteria given below is intended to supplement the information in Chapter 4, with criteria specific to main libraries.

a. **ENTRANCE AND LOBBY.** These areas are used primarily for library functions, but also for activities held in the multi-purpose room, when the rest of the library may be closed. Therefore, the multi-purpose room and public toilets should be adjacent to the entrance and lobby. Provide an electric eye counter between lobby and control area. The lobby should permit the selective closing of public service and staff areas to permit the use of the multi-purpose room and toilets after hours.

(1) *Space Requirements.* See Table 6-4.

(2) *Space Utilization Plan.* See Figure 6-1.

TABLE 6-4 ENTRANCE AND LOBBY SPACE REQUIREMENTS

Items	Unit Allowance	Area	6250		10500		18000		20800		24000		30000	
			QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF
Lounge Chairs	30		2	60	2	60	4	120	6	180	8	240	10	300
Vestibule	100		1	100	1	100	1	100	1	100	1	100	1	100
Display Cabinets	25		—	—	—	—	1	25	1	25	1	25	2	50
Public Telephone	25		—	—	—	—	1	25	1	25	1	25	1	25
Drinking Fountain*	25		—	—	—	—	1	25	1	25	1	25	1	25
Total				160		160		295		355		415		500

\*Accessible to Physically Handicapped

## ENTRANCE AND LOBBY SPACE UTILIZATION PLAN

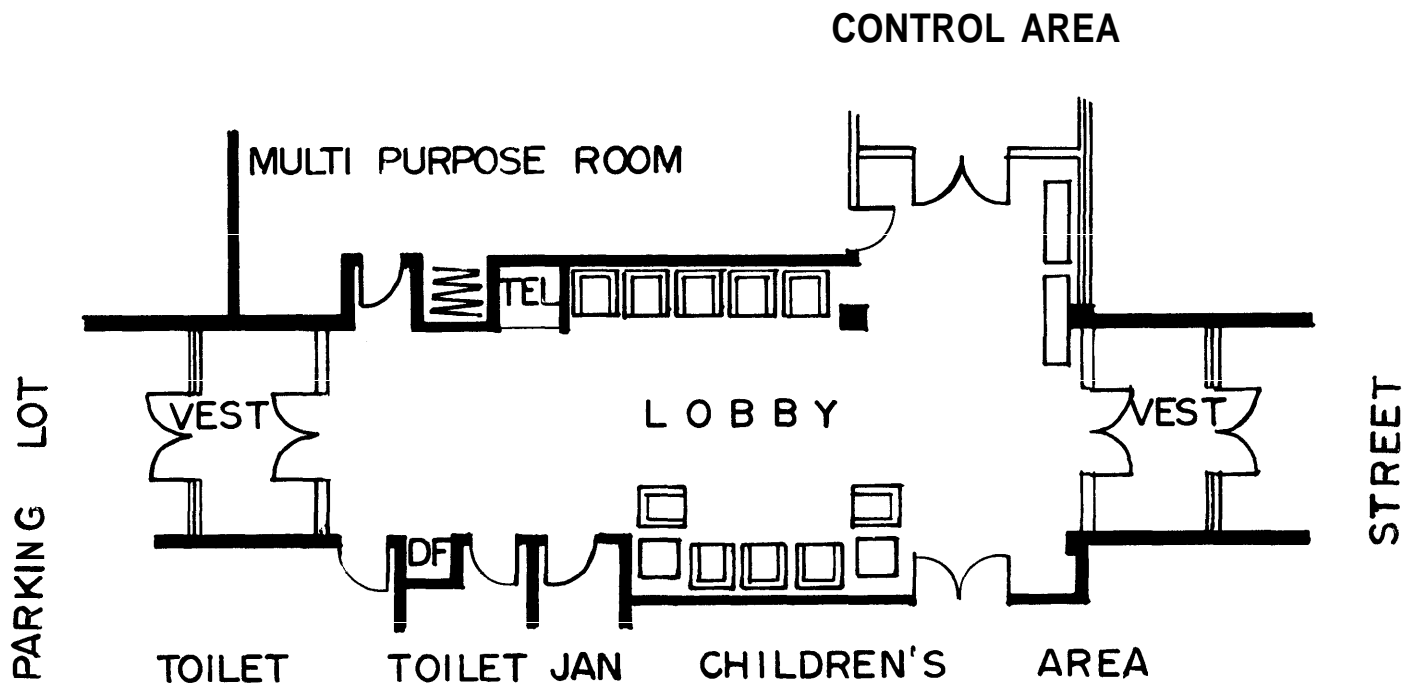


FIGURE 6-1

## b. MULTI-PURPOSE ROOM

(1) *Adjacencies.* The multi-purpose room should open onto the lobby. Access should be provided from the reading areas to expand the seating capacity of the library when the multi-purpose room is not being used for group activities. The staff kitchen should be nearby to facilitate food service. Ideally, storage for chairs and audiovisual equipment should be shared with the children's area.

(2) *Special Considerations.* A movable partition with lock should divide space into unequal parts; each divided area should have separate access. Provide locks on each door, keyed from both sides. Provide coat closet.

(3) *Environmental Criteria.* Air conditioning and heating shall be zoned to allow independent use of the space.

(4) *Space Requirements.* See Table 6-5.

TABLE 6-5 MULTI-PURPOSE ROOM SPACE REQUIREMENTS

Items	Unit Area Allowance	6250 GSF		10500 GSF		18000 GSF		20800 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Lounge Seating	30/seat	—	—	—	—	10	300	10	300	10	300	10	300
Table and Chairs	20/seat	—	—	—	—	10	250	10	250	10	250	10	250
Portable Seating	20/seat	—	—	—	—	20	400	20	400	20	400	20	400
AV and Chair Storage		—	—	—	—	—	50	—	50	—	50	—	50
Total							1000		1000		1000		1000

Space requirements shown are minimum. Provide additional space with dividers as necessary to meet installation requirements. Note: See unit allowances.

(5) *Space Utilization Plan.* See Figure 6-2.

MULTI-PURPOSE ROOM SPACE UTILIZATION PLAN

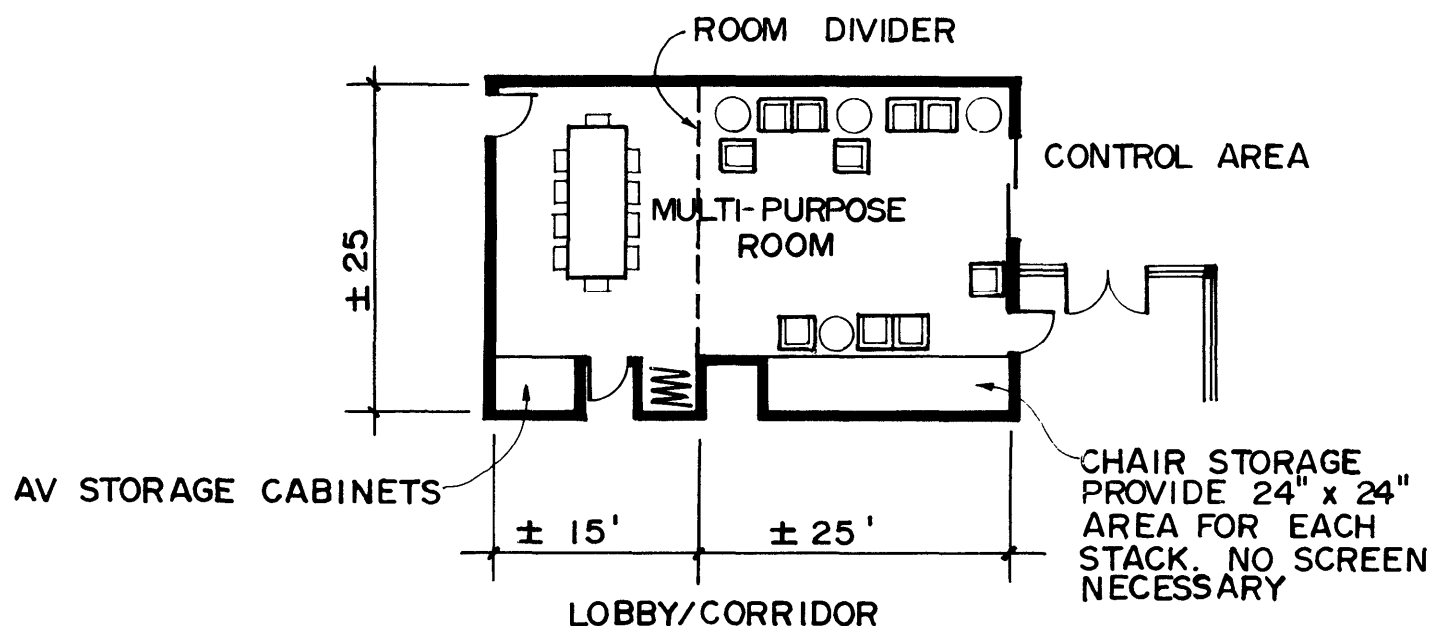


FIGURE 6-2

c. **PUBLIC TOILETS.** Public Toilets are required during regular library hours and after hours when the multi-purpose room is open. Separate facilities for men and women should be adjacent to the lobby and convenient to the multi-purpose room. The entrance to the public toilets should be visible to the control desk if practicable.

(1) *Space Requirements.* See Table 6-6 If the anticipated user population is significantly different from 50 percent male and 50 percent female, or if the number of user seats for each library size differs from the number of seats suggested in this guide, the fixture allocation should be adjusted in accordance with Table 10-7 of DOD 4270.1-M.

TABLE 6-6 PUBLIC TOILETS SPACE REQUIREMENTS

Items	Typical Occupancy	30 Men 30 Women		51 Men 51 Women		90 Men 90 Women		103 Men 103 Women		121 Men 121 Women		150 Men 150 Women	
	Unit Area Allowance	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Men													
WC	25	2	50	3	75	5	125	5	125	5	125	6	150
Urinals	25	1	25	2	50	3	75	3	75	3	75	3	75
Lavatories	15	2	30	3	45	5	75	5	75	5	75	6	90
Women													
WC	25	2	50	4	100	6	150	6	150	6	150	6	150
Lavatories	15	2	50	4	60	6	90	6	90	6	90	6	90
Total			205		330		515		515		515		555

(2) Space Utilization Plan. See Figure 6-3.

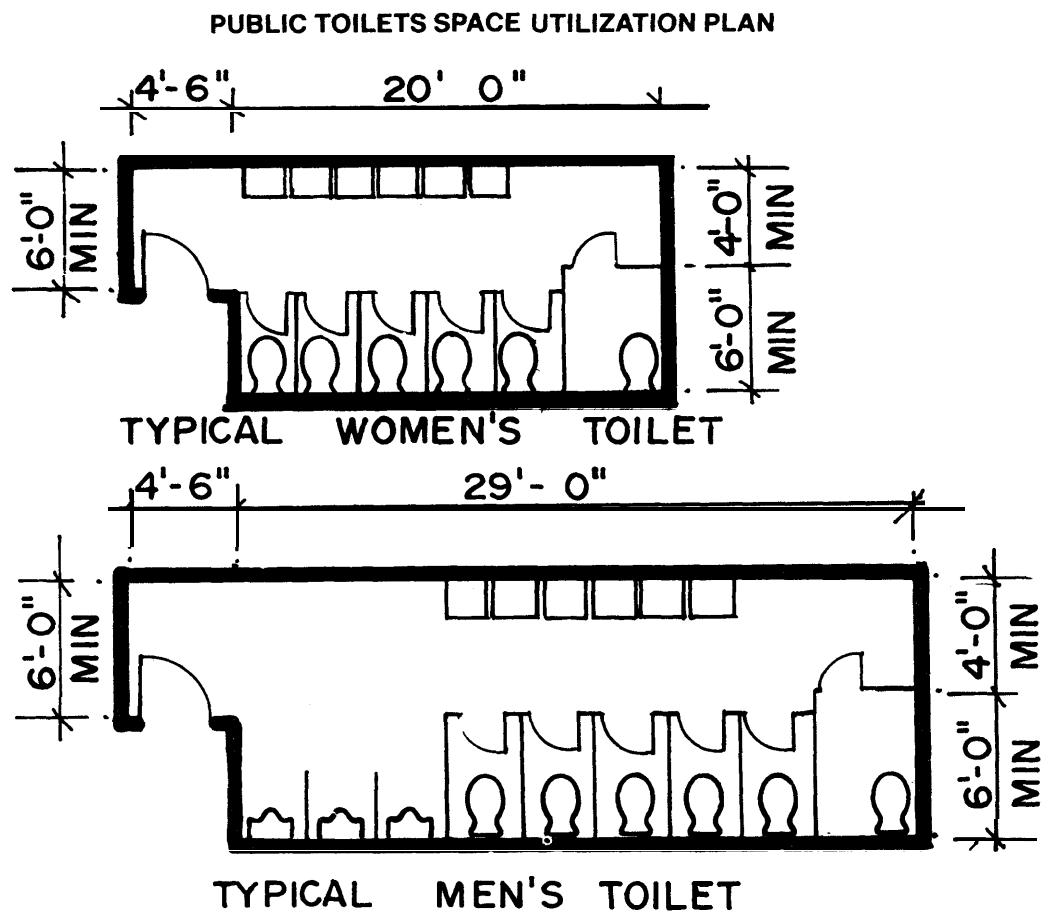


FIGURE 6-3

d. PUBLIC CARD CATALOG

(1) *Space Requirements.* See Table 6-7.

TABLE 6-7 PUBLIC CARD CATALOG SPACE REQUIREMENTS													
Items	Unit Area Allowance	6250 GSF		10500 GSF		18000 GSF		20800 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
15-tray units	17	13	51	6	102	12	204	15	255	18	306	20	340

(2) *Space Utilization Plan.* See Figure 6-4.

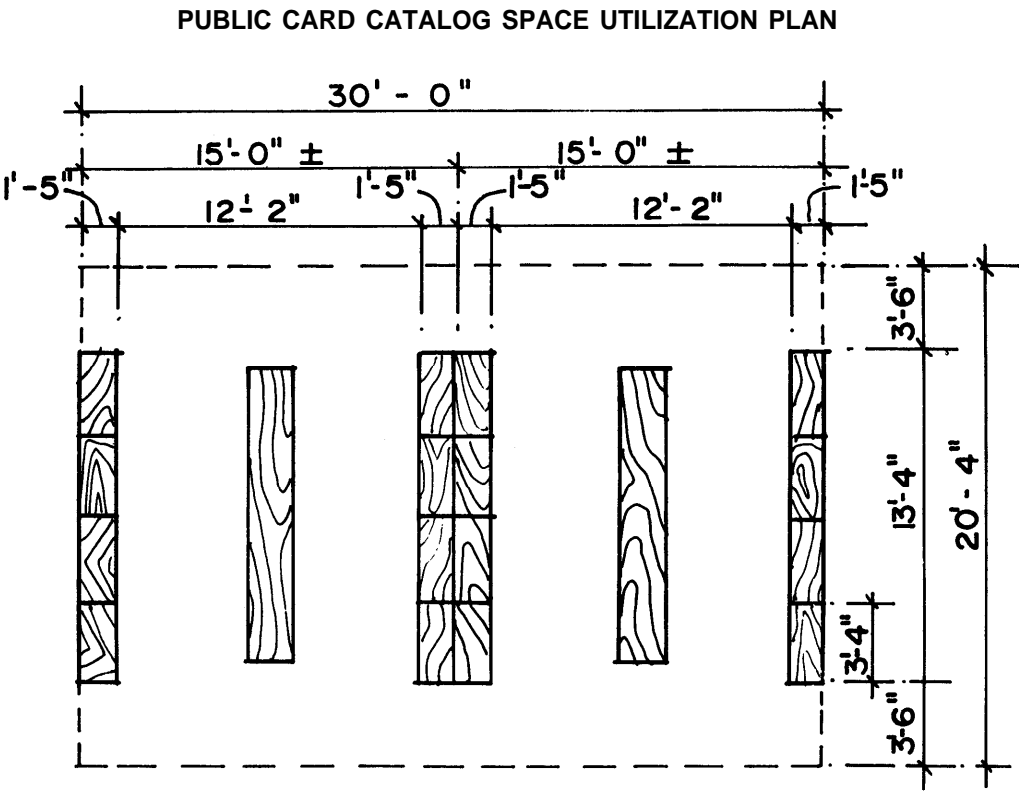


FIGURE 6-4



e. CONTROL AREA. A work area behind the desk is used for maintenance of files used at the control desk, processing of overdue notices and making minor repairs to materials. The work area must include storage space for

reserve materials and for equipment that is to be checked out. The work area should be adjacent to technical services. Color should contrast with carpet in the general reading areas. Provide a console for PA and music.

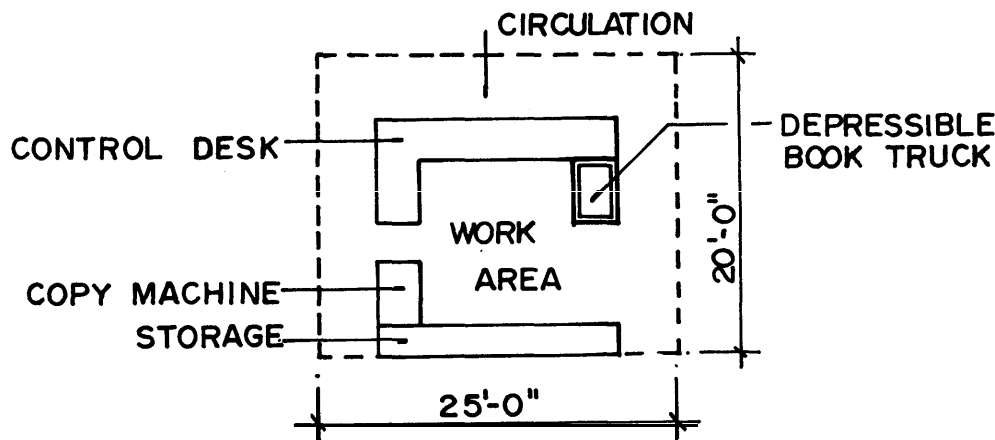
(1) *Space Requirements Table.* See Table 6-8.

**TABLE 6-8 CONTROL AREA SPACE REQUIREMENTS**

Items	Unit Area Allowance	6250 GSF QTY NASF	10500 GSF QTY NASF	18000 GSF QTY NASF	20800 GSF QTY NASF	24000 GSF QTY NASF	30000 GSF QTY NASF
Control Desk	240	1 240	1 240	1 240	1 240	1 240	1 240
Work Area	100	1 100	1 100	1 100	1 100	1 100	1 100
Shelving	9	6 54	6 54	6 54	6 54	6 54	6 54
Copy Machine	100	1 100	1 100	1 100	1 100	1 100	1 100
Recordings	9	6 54	6 54	6 54	6 54	6 54	6 54
Total		548	548	548	548	548	548

(2) *Space Utilization Plan.* See Figure 6-5.

**CONTROL AREA SPACE UTILIZATION PLAN**



**FIGURE 6-5**

f. REFERENCE AREA. The larger main libraries have a reference librarian who answers research and reference questions and assists patrons in finding and using library materials. The card catalog area should be adjacent and

visible from the reference librarian's desk. Periodicals, microform, and the non-fiction section of the book stacks should be nearby.

(1) *Space Requirements Table.* See Table 6-9.

TABLE 6-9 REFERENCE AREA SPACE REQUIREMENTS

Items	Unit Area Allowance	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Shelving	10	12	120	29	290	48	480	56	560	64	640	68	680
Ref Librarian Desk	150	—	—	—	—	—	—	1	150	1	150	1	150
Armchair													
Side Chair													
Book Truck													
2 Sect. Shelving													
Map Case	40	1	40	1	40	1	40	1	40	1	40	1	40
Atlas Case	25	1	25	1	25	1	25	1	25	1	25	1	25
Diet Stand	25	1	25	1	25	1	25	1	25	1	25	1	25
Globe Stand	25	1	25	1	25	1	25	1	25	1	25	1	25
Tables	25	6	150	12	300	26	650	26	650	30	750	45	1125
Lounge	30	—	—	3	75	3	75	4	120	4	120	5	120
Index Table	25	—	—	4	100	4	100	4	100	6	150	8	200
Totals			385		880		1420		1695		1925		2420

(2) Space Utilization Plan. See Figure 6-6.

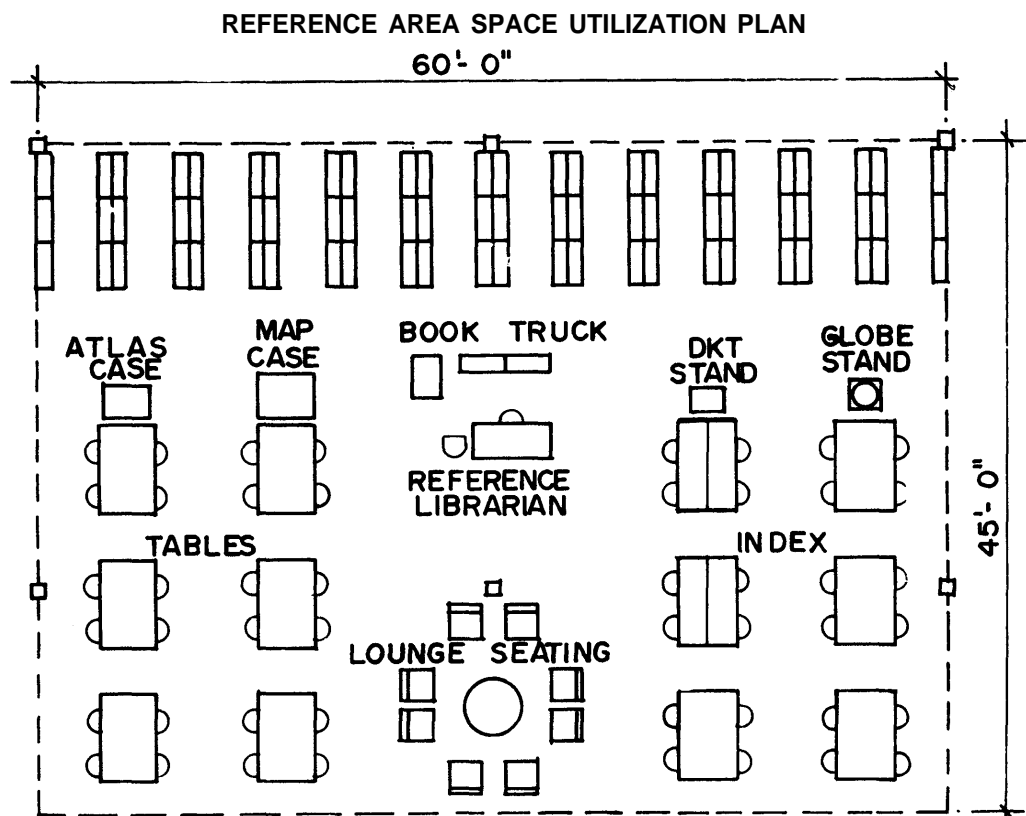


FIGURE 6-6

g. PERIODICALS AREA. The periodicals area should be visible from the control area. Microform should be near the reference area and easily accessible to the reference li-

brarian. Provide shelving for current periodicals up to about one year old. Older issues are boxed and shelved in the stacks area.

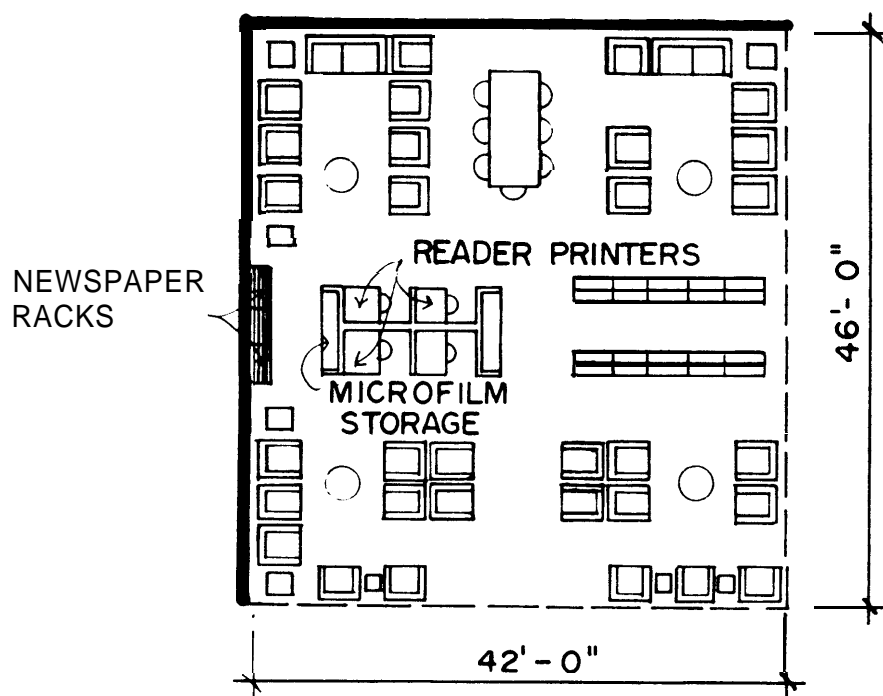
(1) *Space Requirements.* See Table 6-10.

**TABLE 6-10 PERIODICALS AREA SPACE REQUIREMENTS**

Items	Unit Area Allowance	6250		10500		18000		20800		24000		30000	
		QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF	QTY	GSF
Lounge Seating	30	9	270	15	450	22	660	24	720	27	810	35	1050
Table Seating	25	2	50	2	50	4	100	4	100	4	100	6	150
AV Carrel	40	—	—	—	—	1	40	2	80	3	120	4	160
Microfilm Stor	11	4	44	5	55	7	77	8	88	8	88	8	88
Microfiche Stor	11	1	11	1	11	1	11	1	11	1	11	1	11
Newspaper Rack	13	3	39	3	39	3	39	3	39	3	39	3	39
Shelving	15	7	105	7	105	14	210	14	210	14	210	20	300
Total			519		710		1137		1248		1378		1798

(2) *Space Utilization Plan.* See Figure 6-7.

**PERIODICALS AREA SPACE UTILIZATION PLAN**



**FIGURE 6-7**

h. CHILDREN'S AREA. Table 6-11 shows the children's area requirements for typical posts where the total population is twice the military population, based on recommended sizes of collections for those populations.

(1) *Space Requirements.* See Table 6-11.

TABLE 6-11 CHILDREN'S AREA SPACE REQUIREMENTS

Items	Total Post Population	3001- 5000		8001- 12000		16001 - 24000		24000- 32000		32001 - 40000		40001- 52000	
	Collection Size	2500 3000		7500		12000		15000		17500		20000	
	Unit Area Allowance	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Shelving	11	12	132	88	968	141	1551	176	1936	206	2266	235	2585
Card Catalog	17	1	17	3	51	4	68	5	85	6	102	7	119
Children's Lib	125									1	125	1	125
Desk													
Chair													
Side Chair													
1 Sect Shelv													
12-Dwr File													
1 Book Truck													
Cushions	15							10	150	15	225	20	300
Seating	20	8	160	12	240	16	320	20	400	24	480	32	640
Children's Toilets													
Boys	50		*		*		*		*	1	50	1	50
Girls	50		*		*		*		*	1	50	1	50
Storage (2°/0 )			5		30		40		50		70		80
Total			314		1289		1979		2621		3368		3949

\*Include children's fixtures in public toilet

(2) *Space Utilization Plan.* See Figure 6-8.

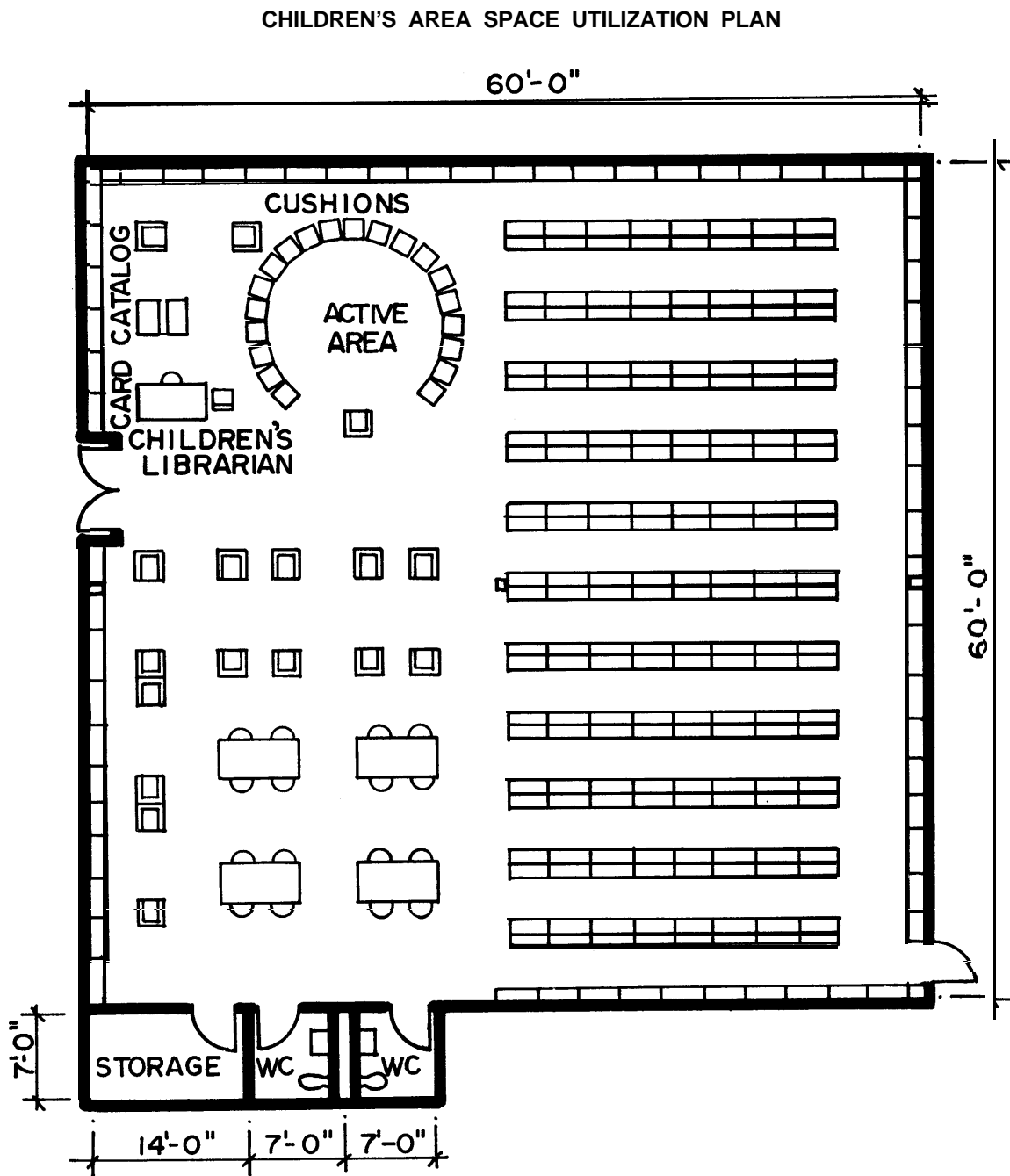


FIGURE 6-8

i. STACK AREA. The public card catalog and reference area should be adjacent. Technical Services should be nearby. Stack areas should be close to and interspersed with table or carrel, and possible lounge seating. The fiction stacks should generally be near lounge furniture and the non-fiction stacks near tables and carrels. Approximately 10 percent of the shelving should be 18 inches deep to accommodate oversize volumes. Stacks should be oriented so that control desk personnel can see down the aisles. If this is not possible, they should be oriented so that the reference librarian can see down the aisles.

(1) *Space Requirements.* See Table 6-12.

TABLE 6-12 STACK AREA SPACE REQUIREMENTS													
Items	Unit Area Allowance	6250 GSF		10500 GSF		16000 GSF		20600 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Shelving 8-12 in. deep	9	140	1260	211	1899	362	3258	409	3681	459	4131	644	5796
Shelving 18 in. deep	11	12	132	17	187	30	330	32	352	35	385	40	440
Total		1392		2086		3588		4033		4516		6236	

(2) *Space Utilization Plan.* See Figure 6-9.

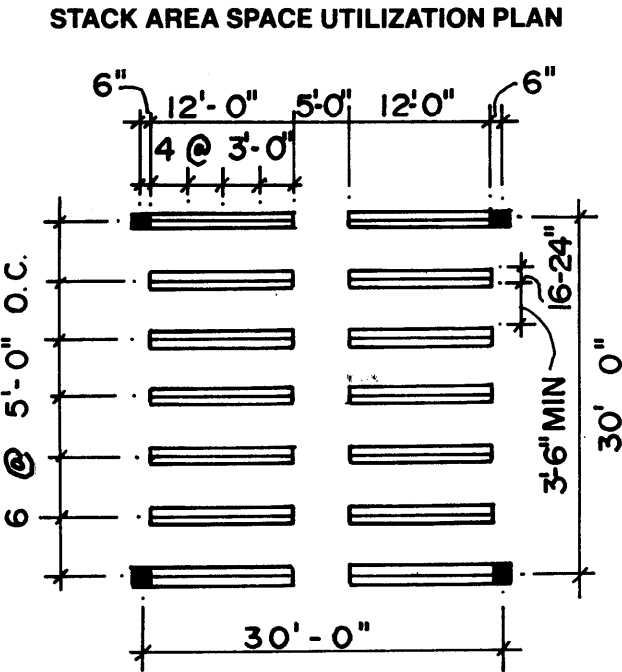


FIGURE 6-9

j. **READING AND STUDY AREAS.** Provide seating near fiction shelves for pleasure readers. Casual readers and patrons who need encouragement to read should have a reading area near the entrance, with new acquisitions, topical subjects, and paperbacks displayed nearby. Small seating groups for one to eight readers should be inter-

spersed with book stacks. Additional reading and study areas, not included in Table 6-13, should be located in the entrance-lobby, multi-purpose room, reference areas, and periodicals area. Suggested numbers of seats are given in the respective tables for these areas.

**TABLE 6-13 READING AND STUDY AREAS SPACE REQUIREMENTS**

Items	Unit Allowance	Area	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Lounge Seating	30/seat		18	540	22	660	42	1260	44	1320	50	1500	70	2100
Tables and Chairs	25/seat		15	375	22	550	36	900	44	1100	50	1250	70	1750
Carrels	30/seat		12	360	26	780	30	900	32	960	35	1050	40	1200
Total	45		45	1275	70	1990	108	3060	120	3380	135	3800	180	5050

k. **TYPING AND LISTENING BOOTHS.** Locate the typing and listening booths near the control area to facilitate checkout and supervision of equipment and materials.

Provide locks on doors (outside only) and 2 feet by 3 feet double glazed window in each booth for supervision and control (See Table 6-14. )

**TABLE 6-14 TYPING AND LISTENING BOOTHS SPACE REQUIREMENTS**

Items	Unit Allowance	Area	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Booths	36		2	72	2	72	3	108	4	144	5	180	5	180
Total				72		72		108		144		180		180

#### I. ADMINISTRATIVE LIBRARIAN'S (150 SQ FT) OFFICE

(1) *Activities and Participants.* The administrative librarian is responsible for the operation of the entire post library system, which includes the main library, branch libraries, the bookmobile, and all field library units. The administrative librarian's office must accommodate frequent meetings with library personnel and visitors.

(2) *Adjacencies.* Since the administrative librarian frequently requires typing services, a clerk typist should be adjacent. Access to technical services is required from this

office to facilitate general supervision. If possible, visitors should have direct access to this office without passing through staff, reading, or stack areas.

(3) *Special Considerations.* Informal, relaxing furnishings are suggested to create an atmosphere conducive to staff counseling. Exterior windows are desirable. The door(s) to this space requires lock(s). Provide sound isolation for confidential conversations.

(4) *Space Requirements.* See Table 6-15.

TABLE 6-15 ADMINISTRATIVE LIBRARIAN'S OFFICE SPACE REQUIREMENTS

Items	Unit Area Allowance	6250	GSF	10500	GSF	18000	GSF	20800	GSF	24000	GSF	30000	GSF
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Office	150							1	150	1	150	1	150
Desk													
Armchair													
4 Side Chairs													
Credenza													
2 Sects. Shelving.													
Total									150		150		150

(5) *Space Utilization Plan.* See Figure 6-10.

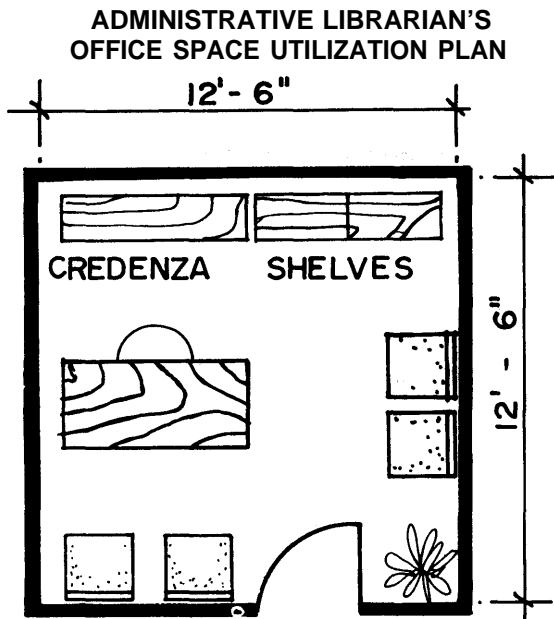


FIGURE 6-10

m. POST (SUPERVISORY) LIBRARIAN'S OFFICE (100 SQ FT). The post librarian is responsible for the operation of the main library, directs the operation of the control desk, the reference and children's areas, and frequently aids patrons in finding books and materials. This office should be adjacent to the control desk, which should be visible to the post librarian through a window or glass partition.

(1) *Space Requirements.* See Table 6-16.

TABLE 6-16 POST LIBRARIAN'S OFFICE SPACE REQUIREMENTS

Items	Unit Area Allowance	6250	GSF	10500	GSF	18000	GSF	20800	GSF	24000	GSF	30000	GSF
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Office	100	1	100	1	100	1	100	1	100	1	100	1	100
Desk													
Chair													
Side Chair													
2 Sects. Shelv.													
12-Dwr File													
Total			100		100		100		100		100		100



(2) *Space Utilization Plan.* See Figure 6-11.

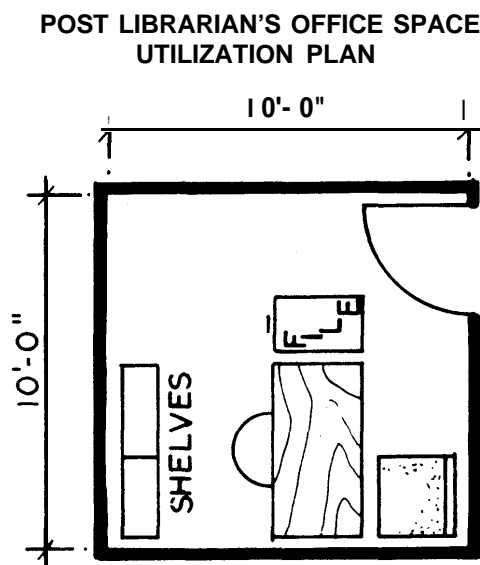


FIGURE 6-11

#### n. EXTENSION COLLECTION

(1) *Activities and Participants.* The extension collection is used primarily for the bookmobile service. The extension librarian is in charge of the extension collection, and is the supervisor of branch libraries, so books from the branches may occasionally be stored as part of the extension collection. Storage space may also be required for paperback kits stockpiled for issue.

(2) *Adjacencies.* This area should be located adjacent to the technical services area and near the bookmobile garage.

(3) *Special Considerations.* A window is desirable for the extension librarian. Provide double-faced compact shelving for 6000 books mounted on tracks for bookmobile. Provide one unit for each 250 volumes in the bookmobile reserve. Provide one unit for each 100 boxes of paperback kits stockpiled.

#### (4) *Environmental Criteria*

Mechanical: 6-8 air changes/hour

Electrical: intercom, 110V outlets, telephone

Lighting: daylight, 60 fc fluorescent general illumination

Acoustics: ambient PNC 40, generated 80 db, average sound quality

#### (5) *Finishes*

Floor: Vinyl asbestos tile

Walls: painted wallboard, plaster or concrete block, or vinyl covering

Ceiling: acoustical tile

(6) *Space Requirements.* See Table 6-17.

TABLE 6-17 EXTENSION COLLECTION SPACE REQUIREMENTS

Items	Unit Allowance	Area	6250 QTY	GSF NASF	10500 QTY	GSF NASF	18000 QTY	GSF NASF	20800 QTY	GSF NASF	24000 QTY	GSF NASF	30000 QTY	GSF NASF
Extension Librarian	120		—	—	—	—	—	—	—	—	1	120	1	120
Desk														
Chair														
2-Dwr. File														
Book Truck														
2 Sects Shelvg.														
**Shelving, High	10		—	—	—	—	—	—	—	—	24	240	24	240
Density, Mobile														
Total				*		*		*		*		360		360

\*Provide space for extension collection if bookmobile is operated or if more than one branch library is supported by the main library.

\*\*Double-faced mobile, high density shelving measuring 37 inches by 26 inches by 84 inches high.

(7) *Space Utilization Plan.* See Figure 6-12.

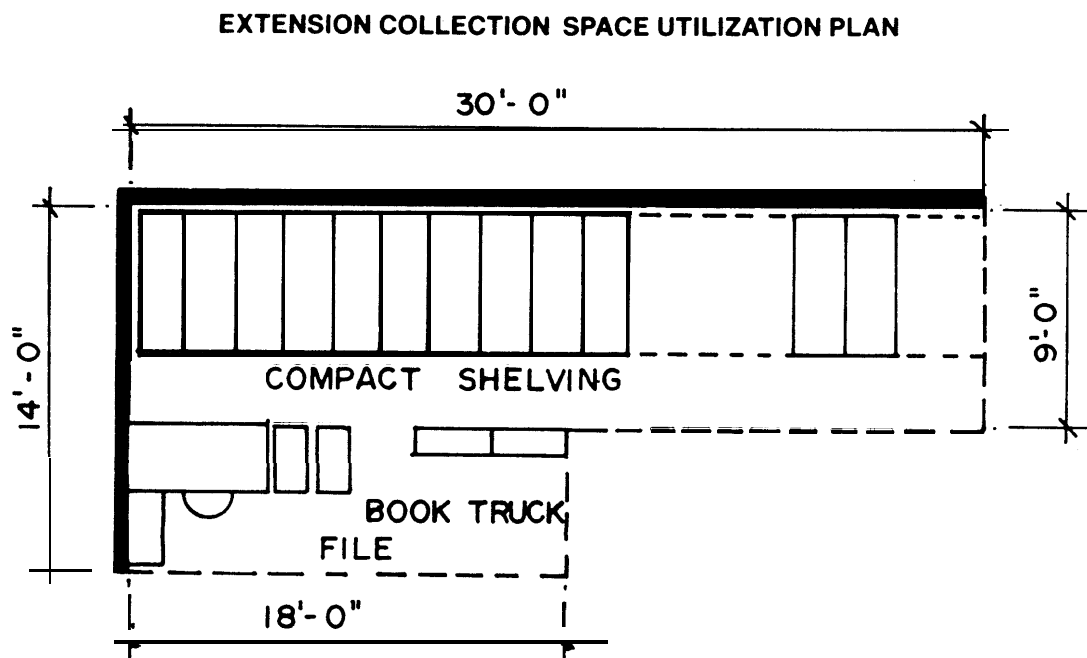


FIGURE 6-12

#### o. TECHNICAL SERVICES

(1) *Activities and Participants.* Technical services serves the entire post library system, including the main library, branch libraries, and the extension collection. In addition to desks and chairs, the following work stations are required:

(a) Card catalog to house master shelf list, authority files, on-order cards, etc. Provide one 30-tray unit per each 45,000 cards to be held.

(b) Index tables for bibliographic materials used for verifying publication data. Number to be determined by librarian.

(c) Work corner, which may include a drafting table and map case for preparation of displays, and a counter with a sink for minor book repairs.

(d) Book trucks for books in process. Provide storage space for one 5-shelf double-faced unit per each

300 volumes in processing, reserve stacks, and excess materials for disposal.

(e) Computer terminal

(2) *Adjacencies.* The office of the administrative librarian should have direct access to the technical services area. Required adjacencies also include shipping and receiving, the extension collection, the bookmobile garage, and the control area. It is desirable that the staff lounge and public card catalog be near the technical services area.

(3) *Special Considerations.* Provide ample window area. Provide thermostat. Semi-private work spaces should be provided using movable partitions. Drapes and carpeting should be furnished in work station areas. Heavy traffic floors may be vinyl asbestos tile.

(4) *Space Requirements.* See Table 6-18.

TABLE 6-18 TECHNICAL SERVICES SPACE REQUIREMENTS

Items	Unit Area Allowance	6250 GSF		10500 GSF		18000 GSF		20800 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Work Stations	125	1	125	2	250	3	375	5	625	7	875	10	1250
Card Catalog	17	1	17	2	34	4	68	4	68	5	85	5	85
Book Index	50	—	—	—	—	1	50	1	50	2	100	2	100
Supply Cabinet	20	1	20	1	20	1	20	1	20	1	20	1	20
Drafting Table (incl Ref Table and Map Case)	125	—	—	—	—	—	—	—	—	1	125	1	125
Work Counter (incl sink)	5/lin ft	6	30	6	30	6	30	8	40	10	50	12	60
Shelving, mobile	12	4	48	9	108	9	108	10	120	12	144	15	180
Total			240		442		651		923		1399		1820

Note: Tabulated figures are based on staffing shown in Table 6-2. Number of work stations and actual space requirements should be based on actual authorized staffing levels. Space for administrative librarian, post librarian, and reference librarian should be programmed separately.

(5) *Space Utilization Plan.* See Figure 6-13.

TECHNICAL SERVICES SPACE UTILIZATION PLAN

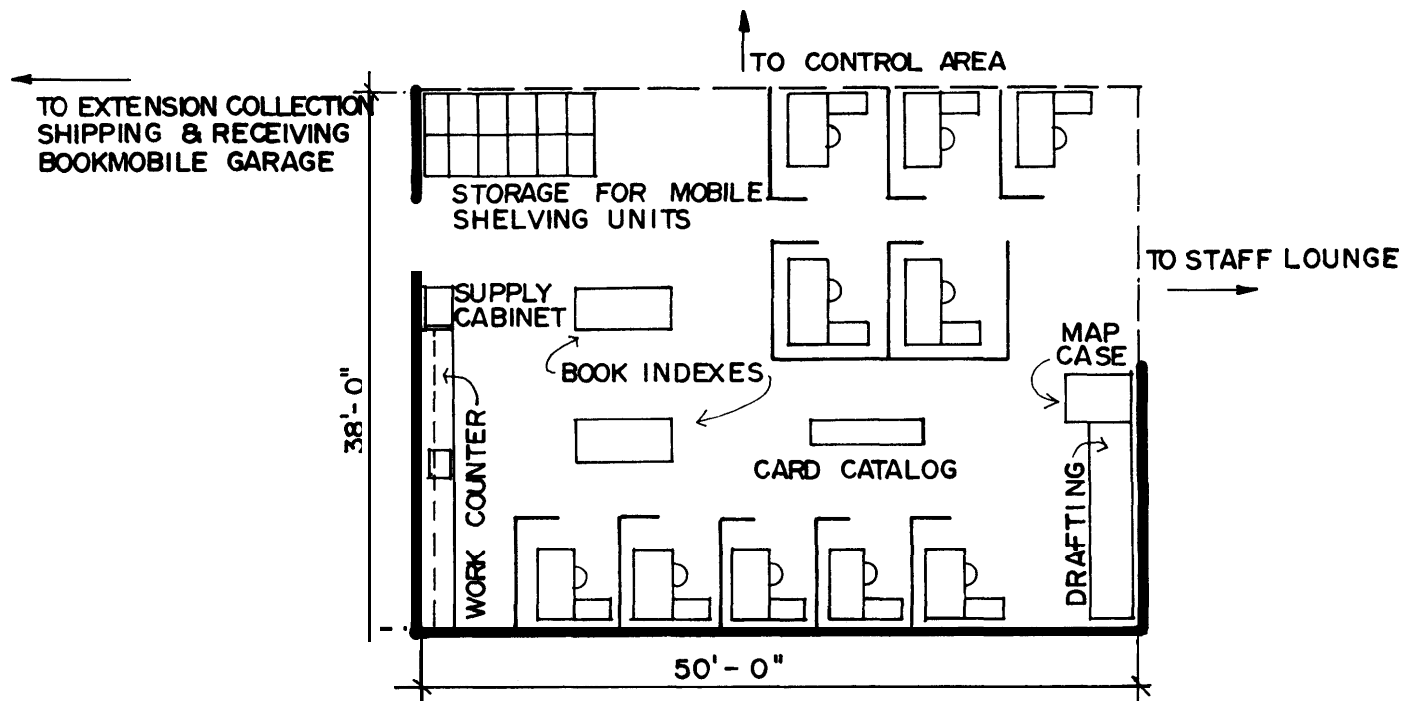


FIGURE 6-13

p. SHIPPING AND RECEIVING. The shipping and receiving area should be provided for storage, unpacking, sorting, and checking packages against invoices and packing lists. This area should be adjacent to the bookmobile garage, the extension collection, and technical services.

(1) *Space Requirements.* See Table 6-19.

TABLE 6-19 SHIPPING AND RECEIVING SPACE REQUIREMENTS

Items	Unit	Area Allowance	6250 GSF		10500 GSF		16000 GSF		20600 GSF		24000 GSF		30000 GSF	
			QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Desk & Chair	50	—	—	—	—	—	1	50	1	50	1	50	1	50
Work Counter	50	—	—	—	—	—	1	50	1	50	1	50	1	50
Storage Bins	25	—	—	—	—	—	4	100	4	100	6	150	6	150
Loading Dock	2.5/lf	—	—	—	—	—	—	—	—	—	14	35	14	35
Total			*		*		200		200		235		235	

\* Combined with technical services

(2) Space Utilization Plan. See Figure 6-14.

SHIPPING AND RECEIVING SPACE UTILIZATION PLAN

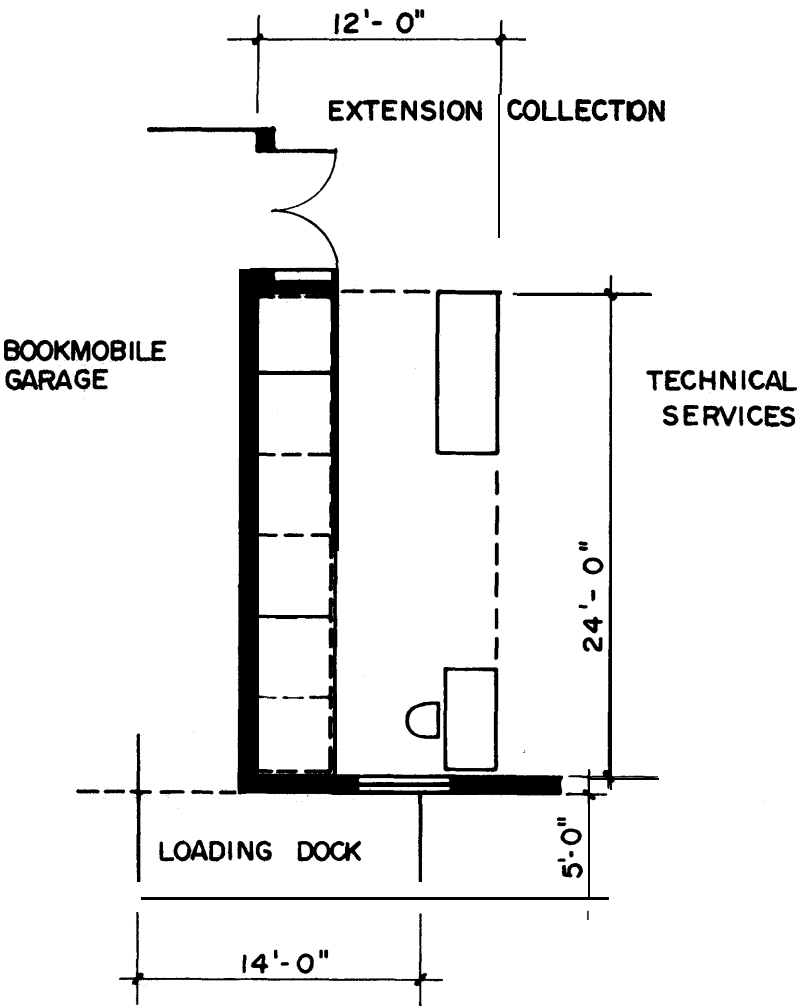


FIGURE 6-14

q. **STAFF LOUNGE.** The staff lounge provides kitchen support for meetings in the multi-purpose room and therefore should be adjacent, if possible, with direct access by a door which is lockable from the staff lounge.

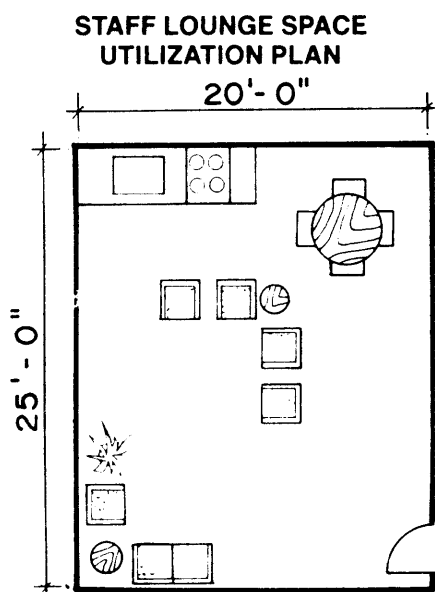
(1) *Space Requirements.* See Table 6-20.

**TABLE 6-20 STAFF LOUNGE SPACE REQUIREMENTS**

Items	Unit Area Allowance	6250 GSF		10500 GSF		18000 GSF		20800 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Sofa	75	—	—	—	—	1	75	1	75	1	75	1	75
Lounge Chairs	30	—	—	—	—	2	60	4	120	6	180	8	240
Chairs and Tables	25/seat	—	—	—	—	4	100	4	100	4	100	4	100
Unit Kitchen	80	—	—	—	—	1	80	1	80	1	80	1	80
Total			*		*	315		375		435		495	

\*Provide accommodations in technical services area

(2) *Space Utilization Plan.* See Figure 6-15.



**FIGURE 6-15**

r. **STAFF TOILETS.** A single toilet for all staff members is sufficient for most libraries. Provide lockers for coats and belongings for staff without private offices. Locate the toilet near technical services which has the greatest concentration of staff. Entrances should be remote from public toilets entrances.

(1) *Space Requirements.* See Table 6-21.

**TABLE 6-21 STAFF TOILETS SPACE REQUIREMENTS**

Items	Unit Area Allowance	6250 GSF		10500 GSF		18000 GSF		20800 GSF		24000 GSF		30000 GSF	
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Washrooms	60	—	—	—	—	1	60	1	60	1	60	1	60
Lockers	6	2	12	4	24	6	36	6	36	8	48	18	108
Total			12		24		96		96		108		168

(2) *Space Utilization Plan.* Refer to plans in Chapter 4.

## s. JANITOR'S CLOSET

(1) *Space Requirements.* See Table 6-22.

TABLE 6-22 JANITOR'S CLOSET SPACE REQUIREMENTS

Items	Unit Area Allowance	6250	GSF	10500	GSF	18000	GSF	20800	GSF	24000	GSF	30000	GSF
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Janitor's Closet	100	1	100	1	100	1	100	1	100	1	100	1	100

(2) *Space Utilization Plan.* Refer to plan in Chapter 4.

t. BOOKMOBILE GARAGE. The bookmobile garage accommodates both the bookmobile and a loading dock for moving loaded book trucks to the bookmobile at a height convenient for loading. It can also serve as access between the shipping and receiving area and the outside loading dock. The bookmobile garage should be adjacent to the shipping and receiving area and the extension collection.

(1) *Special Considerations.* Most bookmobiles are loaded from the right side. Since it is preferable to drive straight in, rather than back in, the loading dock should be located on the right side of a parked truck. Space behind loading dock/ramp should be sufficient to insure maneuverability. Since bookmobiles are higher than most

vehicles, the clear height of the garage door must be verified against the maximum anticipated vehicle size.

(2) *Environmental Criteria*

Mechanical: CW for hose, floor drain, exhaust, 6-8 air changes/hour

Electrical: intercom, 220V and 110V outlets

Lighting: 30 fc fluorescent

Acoustics: ambient PNC 55, generated 90 db, live sound quality

(3) *Finishes*

Floor: Concrete

Walls: concrete block or exposed, paint optional

Ceiling: exposed

(4) *Space Requirements.* See Table 6-23.

TABLE 6-23 BOOKMOBILE GARAGE SPACE REQUIREMENTS

Items	Unit Area Allowance	6250	GSF	10500	GSF	18000	GSF	20800	GSF	24000	GSF	30000	GSF
		QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF	QTY	NASF
Bookmobile Garage	450	*		*		*		*		1	450*	1	450*
Total		*	—	*	—	*	—	*	—		450		450

\*Only one garage of 450 square feet is authorized. If more than one bookmobile is operated, provide additional stalls without cover in service drive area. If winter design temperature for installation shown in TM 5-785 is 15°F or higher provide covered platform in lieu of garage

(5) *Space Utilization Plan.* See Figure 6-16.

# BOOKMOBILE GARAGE SPACE UTILIZATION PLAN

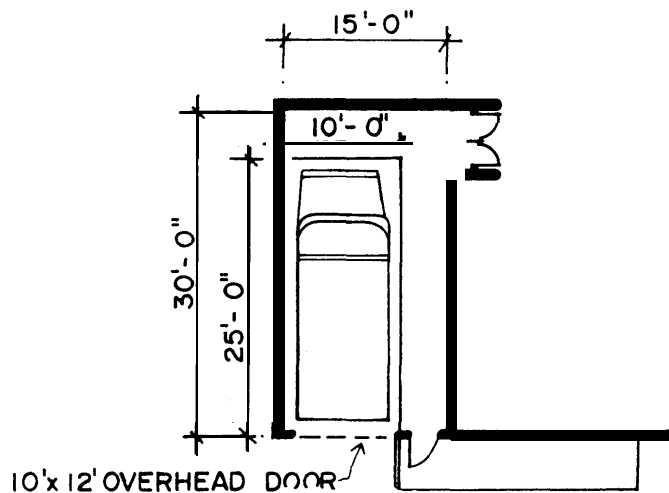


FIGURE 6-16

## 6-4 SUMMARY OF REQUIREMENTS AND CRITERIA

The following tables summarize the space requirements, environmental criteria, and finish materials covered in this chapter. Table 6-24 covers space requirements for six sizes of facilities. Table 6-25 summarizes environmental criteria. Table 6-26 summarizes recommended finish materials for each type of library space.

a. SUMMARY OF SPACE REQUIREMENTS. See Table 6-24.

TABLE 6-24 SUMMARY OF SPACE REQUIREMENTS

Space	6250 GSF	10500 GSF	18000 GSF	20800 GSF	24000 GSF	30000 GSF
	NASF	NASF	NASF	NASF	NASF	NASF
a. Entrance and Lobby	160	160	295	355	415	500
b. Multi-Purpose Room	—	—	1000	1000	1000	1000
c. Public Toilets	205	330	515	515	515	555
d. Public Card Catalog	51	102	204	255	306	340
Control Area	548	548	548	548	548	548
e. Reference Area	385	880	1420	1695	1925	2420
g. Periodicals Area	519	710	1137	1248	1378	1798
h. Children's Area	314	1289	1979	2621	3368	3949
i. Stack Area	1392	2086	3588	4033	4516	6236
j. Reading and Study Area	1425	2230	3420	3760	4225	5600
k. Typing and Listening Booths	72	72	108	144	180	180
l. Administrative Librarian	—	—	—	150	150	150
m. Post Librarian	100	100	100	100	100	100
n. Extension Collection	—	—	—	—	360	360
o. Technical Services	240	442	651	923	1399	1820
p. Shipping and Receiving	—	—	200	200	235	235
q. Staff Lounge	—	—	315	375	435	495
r. Staff Washroom and Lockers	12	24	96	96	108	168
s. Janitor's Closet	100	100	100	100	100	100
t. Bookmobile Garage	—	—	—	—	450	450
Total NASF	5,523	9,073	15,676	18,118	21,713	26,836
Core Area 15% + NASF	727	1,427	2,324	2,682	3,219	4,096
GSF	6,250	10,500	18,000	20,800	24,932*	30,932*

\*932 sf extra is for extension collection and bookmobile garage

b. SUMMARY OF ENVIRONMENTAL CRITERIA. See Table 6-25.

TABLE 6-25 SUMMARY OF ENVIRONMENTAL CRITERIA

Space	Mechanical					Electrical					
	Thermostat	Air Changes/Hr	CW/HW	Central Vacuum	Floor Drain	Exhaust	Intercom	Outlets	PA	Telephone	TV Jack
a. Entrance and Lobby		6	(a)					110V	x	(b)	
b. Multi-Purpose Room	x	15		x				110V	x		x
c. Public Toilets		10	(e)		x	x		110V			
d. Public Card Catalog		6-8		x					x	x	
e. Control Area	x	6-8		x			x	110V	(g)	x	x
f. Reference Area		6-8		x			x	(h)	x	x	
g. Periodicals Area		6-8		x				(h)	x		
h. Children's Area	x	6-8	x	x	(m)	(m)	X	110V	x	x	x
i. Stack Area		6-8		x				110V	x		
j. Reading and Study Area		6-8		x				(h)	x		
k. Typing and Listening Booths		10						110V	x		
l. Administrative Librarian		6-8		x			x	110V	x	x	
m. Post Librarian		6-8		x			x	110V		x	
n. Extension Collection		6-8					x	110V		x	
o. Technical Services	x	6-8	(i)				x	110V	x	x	
p. Shipping and Receiving		6-8						110V		x	
q. Staff Lounge		6-8	(i)			x		110V	x	x	
r. Staff Washrooms and Lockers		10	(j)		x	x		110V	x		
s. Janitor's Closet		6	(i)		x	x		110V			
t. Bookmobile Garage			(i)		x	x		220V	x		



TABLE 6-25 SUMMARY OF ENVIRONMENTAL CRITERIA (CONTINUED)

Space	Lighting				Acoustics		Sound Quality	
	Daylight	Fluorescent FC	Incandescent FC	Task (Fluor)	Task (Incan)	Ambient (PNC)		Generated (dB)
a. Entrance and Lobby	X	60/10	(d)		(c)	40	80	AVG
b. Multi-Purpose Room					X	30	80	AVG
c. Public Toilets		30				45	80	ML
d. Public Card Catalog		60				30	75	MD
e. Control Area		60				35	80	MD
f. Reference Area		60				30	75	MD
g. Periodicals Area		60				35	75	MD
h. Children's Area	X	60				35	85	MD
i. Stack Area		60				35	75	MD
j. Reading and Study Area		60			X	30	70	MD
k. Typing and Listening Booths				X		30	80	D
l. Administrative Librarian	X	60				30	75	AVG
m. Post Librarian		60				30	70	AVG
n. Extension Collection	X	60				40	80	AVG
o. Technical Services	X	60		X		40	80	AVG
p. Shipping and Receiving		60				40	80	AVG
q. Staff Lounge	X	30		X	X	35	70	MD
r. Staff Washrooms and Lockers		30	(k)			45	80	AVG
s. Janitor's Closet		20				45	90	L
t. Bookmobile Garage	X	30				55	90	L

(a) Drinking Fountain

(b) Pay Telephone

(c) For Exhibits

(d) 60 fc Dimmer Switch

(e) Slop Sink

(f) 220V for Copy Machine

(g) Console

(h) 110V floor outlet

(i) Sink

(j) Sink and Water Closet

(k) Over Sink

(l) Hose

(m) In Toilets

c. SUMMARY OF FINISH MATERIALS. See Table 6-26.

TABLE 6-26 SUMMARY OF FINISH MATERIALS

Space	Floor					Wall					Ceiling							
	Carpet	Ceramic Tile	Concrete	Mats	Quarry Tile/Terrazzo	Vinyl Asbestos	Brick/Arch. Matls	Ceram Tile Wainscot	Wallboard/Plaster	Concrete Block	Acous Treatment	Exposed	Tack Board	Paint	Vinyl Covering	Acoustical Tile	Wallboard/Plaster	Exposed
Entrance and Lobby				X	X		X		X	X	X		X			X		
Multi-Purpose Room	X								X	X	X		X	X	X	X		
Public Toilets		X			X			X	X	X				X	X		X	
Public Card Catalog	X			X	X				X	X	X					X		
Control Area	X			X	X		X		X		X							
Reference Area	X								X	X						X		
Periodicals Area	X								X	X				X		X		
Children's Area	X								X	X			X	X	X	X		
Stack Area	X								X	X			X	X		X		
Reading and Study Areas	X								X	X				X		X		
Typing and Listening Booths	X								X	X	X			X		X		
Administrative Librarian	X								X	X		X		X	X	X		
Post Librarian	X					X			X	X				X		X		
Extension Collection						X			X	X				X		X		
Technical Services						X			X	X			X	X		X		
Shipping and Receiving			X		X				X	X			X	X		X		
Staff Lounge	X								X	X				X	X	X		
Staff Washrooms and Lockers		X	X		X			X	X	X				X		X		
Janitor's Closet			X		X			X	X	X		X						X
Bookmobile Garage			X				X			X		X						X

**6-5 SPACE ORGANIZATION**

a. ADJACENCIES. Space numbers and names are shown in the left hand column of Table 6-27 and the number(s) of the adjacent spaces are listed to the right under the applicable criteria column. The resulting adjacency relationships are shown diagrammatically in Figure 6-17 with respect to organizing spaces into functional (building) layouts.

**TABLE 6-27 IDENTIFICATION OF ADJACENCY RELATIONSHIPS**

Space No.	Adjacent	Near 25	Near 75	Isolated
1. Entrance & Lobby	2,3,5,13	8	20	10,17,21
2. Multi-Purpose Room	1,3	5,8	18,20	6
3. Public Toilets	1,2	5	20	
4. Public Card Catalog	5,6	8,9,10,11,14,16	20	17,21
5. Control Area	1,4,14,16	2,3,6,7,8,12	9,10,11,20	17
6. Reference Area	4,7,10,11,14	5,9	20	2,17,21
7. Periodicals Area	6	5,9,11	10,20	17,21
8. Children's Area		1,2,4,5	20	10,11,17,21
9. Stack Area	10,11	4,6,7,16	5,20	1,17,21
10. Reading Area	6,9,11	4	5,7,20	8,17,21
11. Study Area	6,9,10	4	5,20	8,17,21
12. Typing and Listening Booths		4,5		
13. Administrative Librarian	1,16	14,15,18	20	
14. Post Librarian	5,6	4,16,18	20	
15. Extension Collection	16,17,21	13	20	
16. Technical Services	5,15,17,21	4,9,13,14,18	20	
17. Shipping and Receiving	15,16,21		20	1,5,6,7,8,9,10,11,18
18. Staff Lounge	19	13,14,16	2,20	17,21
19. Staff Washrooms and Lockers	16,18	13,14,15,17,20,21		
20. Janitor's Closet			20	
21. Bookmobile Garage	15,16,17		20	1,6,7,8,9,10,11,18

# DIAGRAMMATICAL INTERPRETATION OF ADJACENCY RELATIONSHIPS

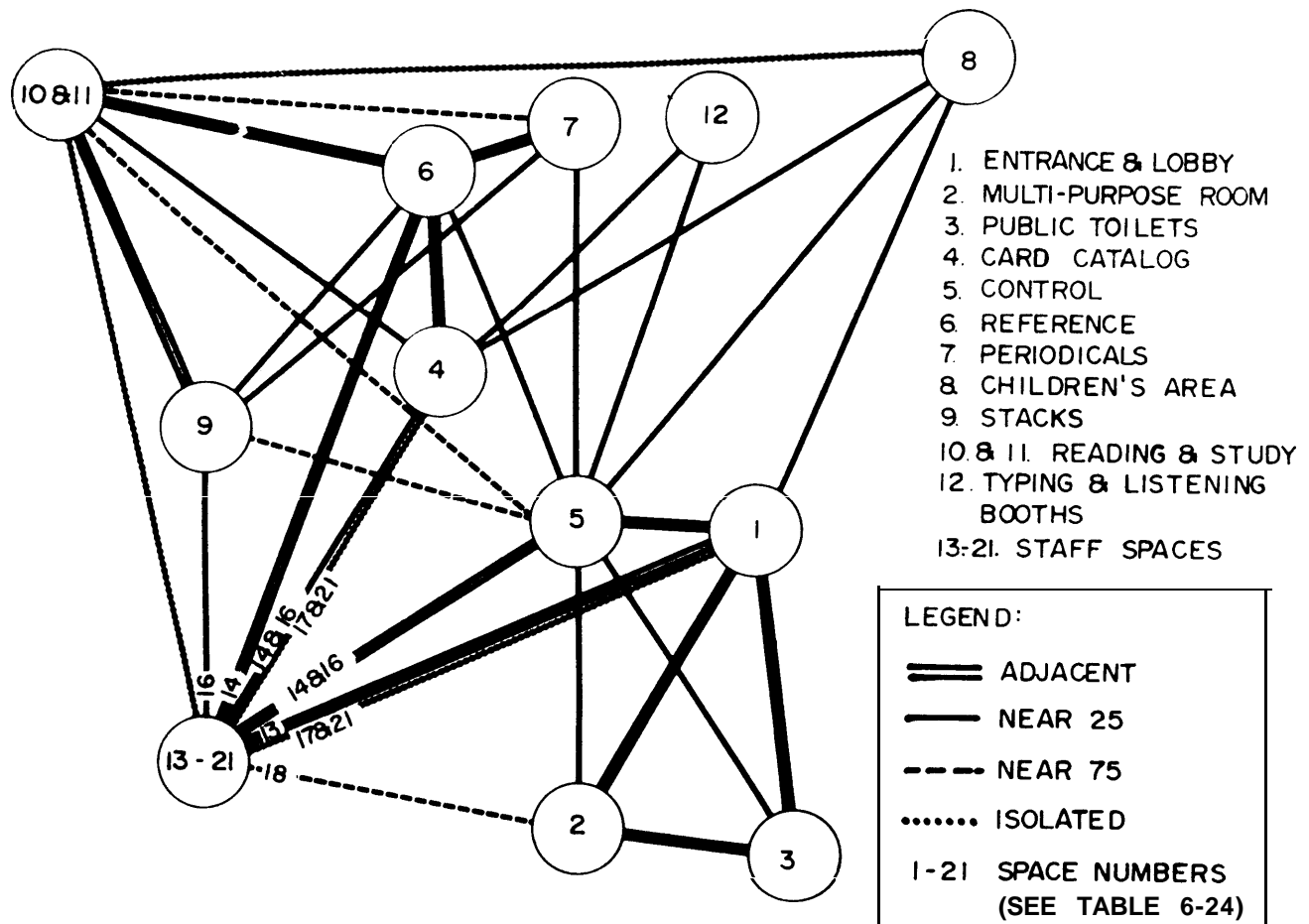


FIGURE 6-17

b. FUNCTIONAL GROUPS. Three distinct groups of spaces were identified in Paragraph 6-2.f(a). They were general use, public service, and staff spaces. Each one supports a common function established by need to provide optimum adjacency relationships.

(1) General use spaces include the entrance and lobby, multi-purpose room, and public toilets. These spaces must be organized to allow a transition from the exterior of the library into the interior control area. The organization of spaces into this group is shown diagrammatically in Figure 6-18.

## GENERAL USE FUNCTIONAL GROUP (SPACES 1-3)

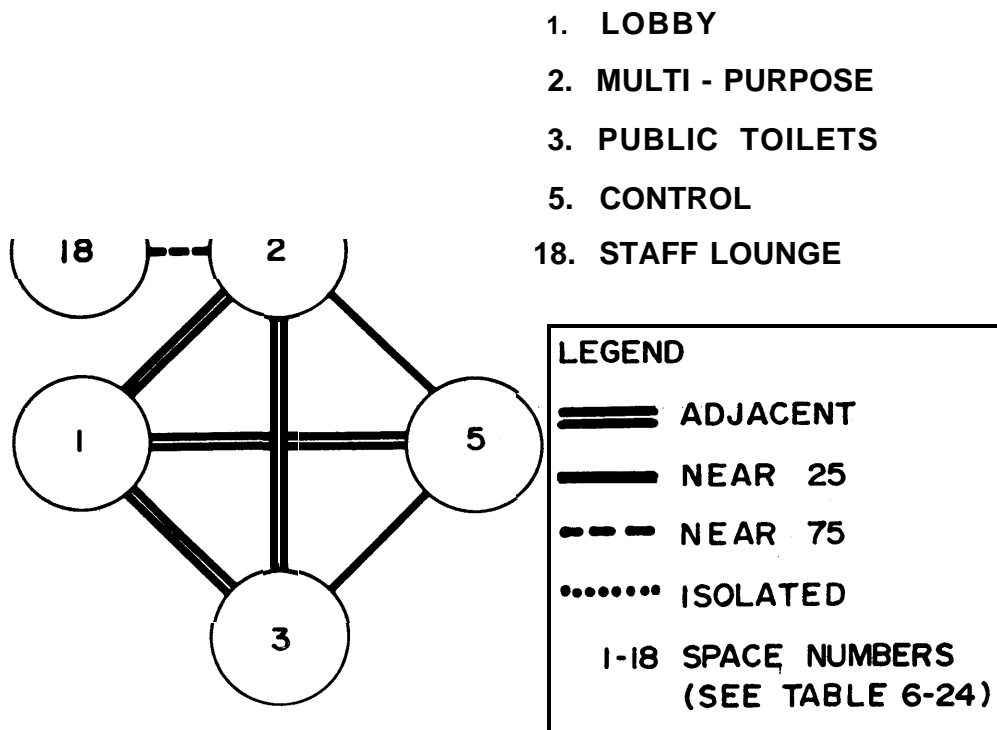


FIGURE 6-18

(2) Public service spaces include the control area, card catalog, reference and stack areas, reading and study areas, and the children's area. These spaces should be organized in an open fashion with reading areas interspersed with book stacks, all radiating out from the control area. This group of spaces is diagramed in Figure 6-19.

## PUBLIC SERVICE FUNCTIONAL GROUP (SPACES 4-12)

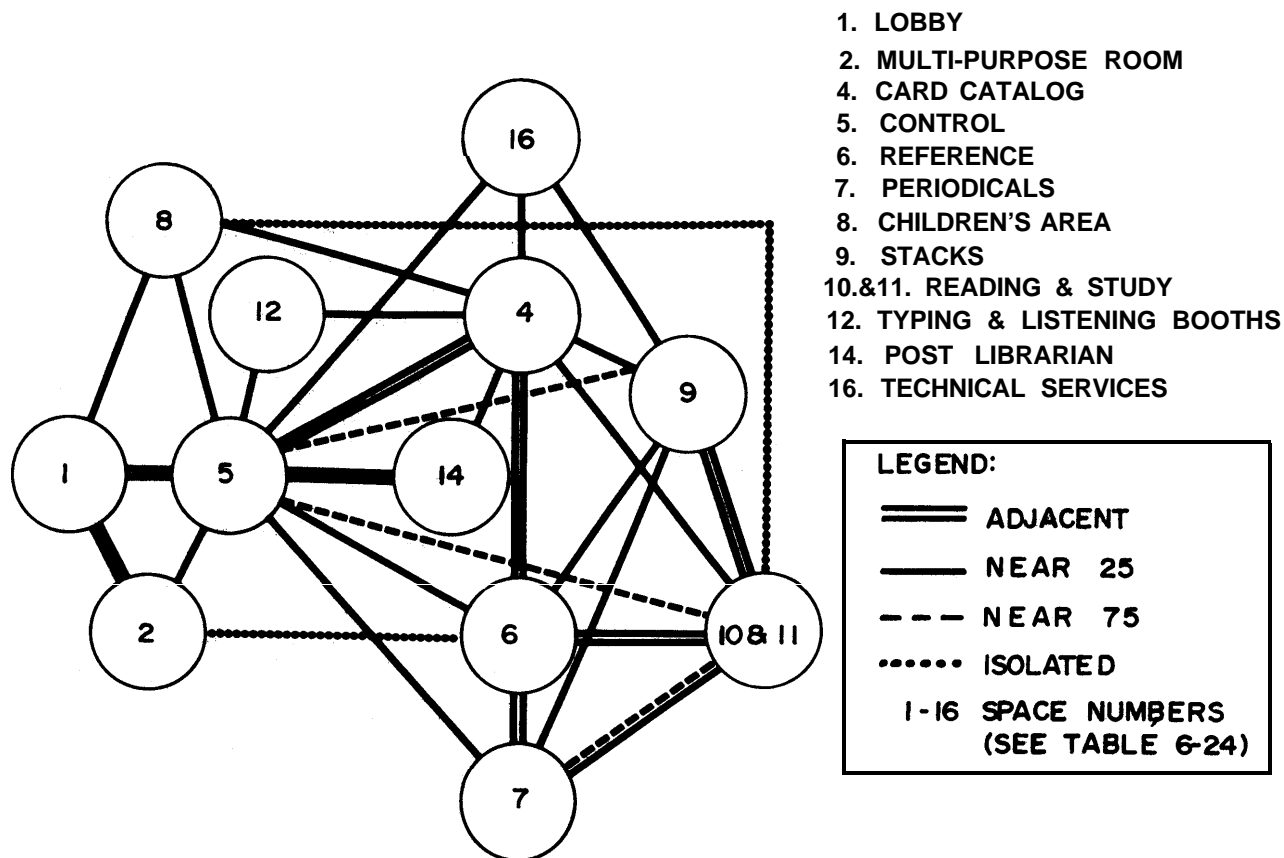


FIGURE 6-19

(3) Staff spaces include the technical services area, librarian offices, staff lounge, shipping and receiving area, bookmobile garage, and the extension collection. These spaces must be organized to maximize efficiency and communication. A diagrammatic representation of this group of spaces is shown in Figure 6-20. Figures 6-21, 6-22, and 6-23 show user flow, material flow, and staff flow.

## STAFF SPACES FUNCTIONAL GROUP

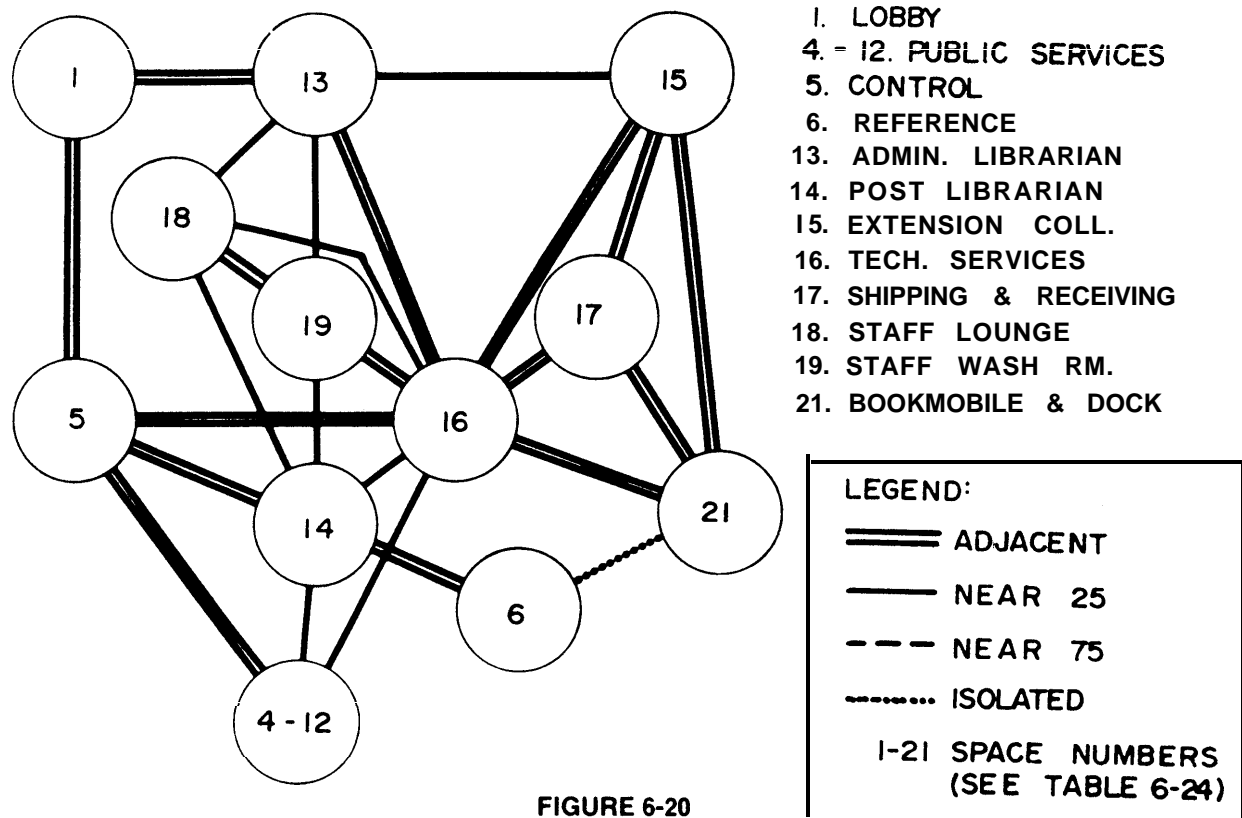


FIGURE 6-20

## USER FLOW

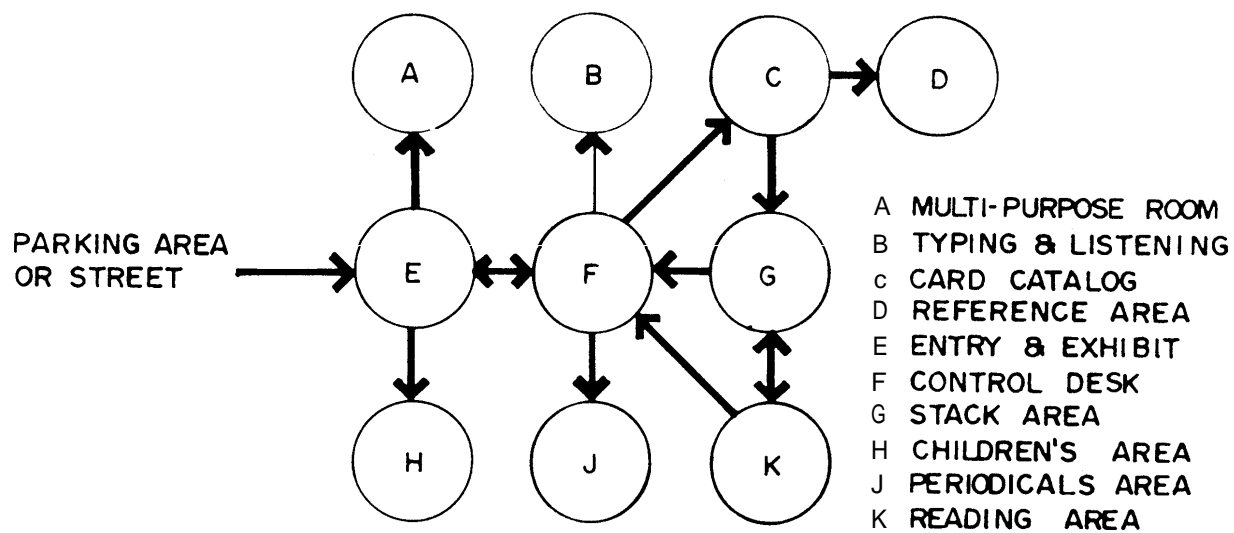


FIGURE 6-21

## MATERIAL FLOW

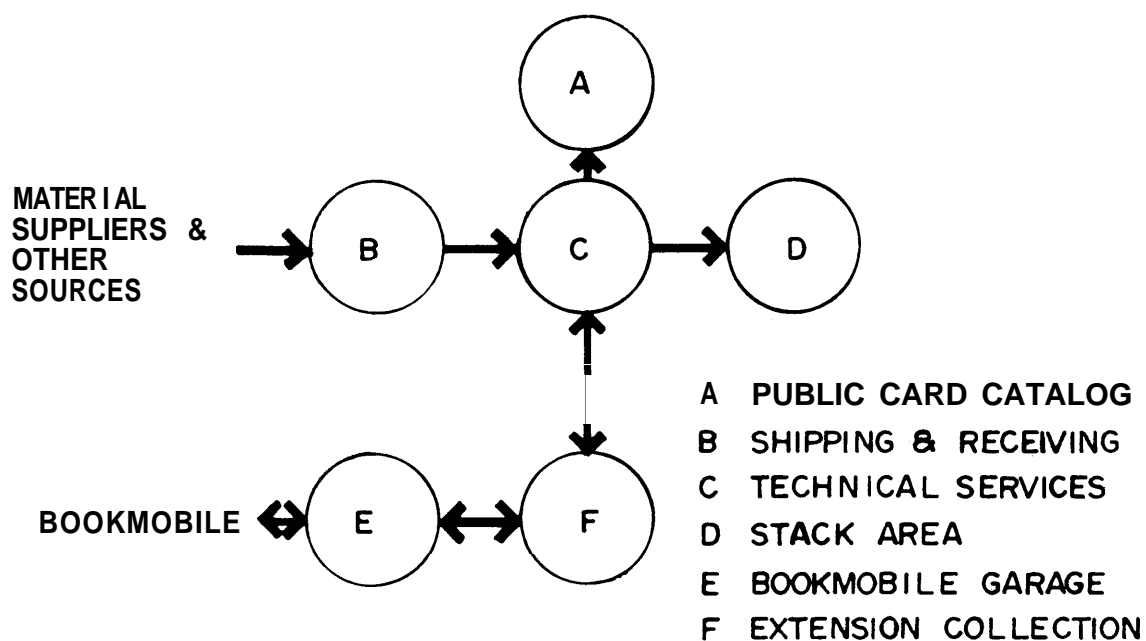


FIGURE 6-22

## STAFF FLOW

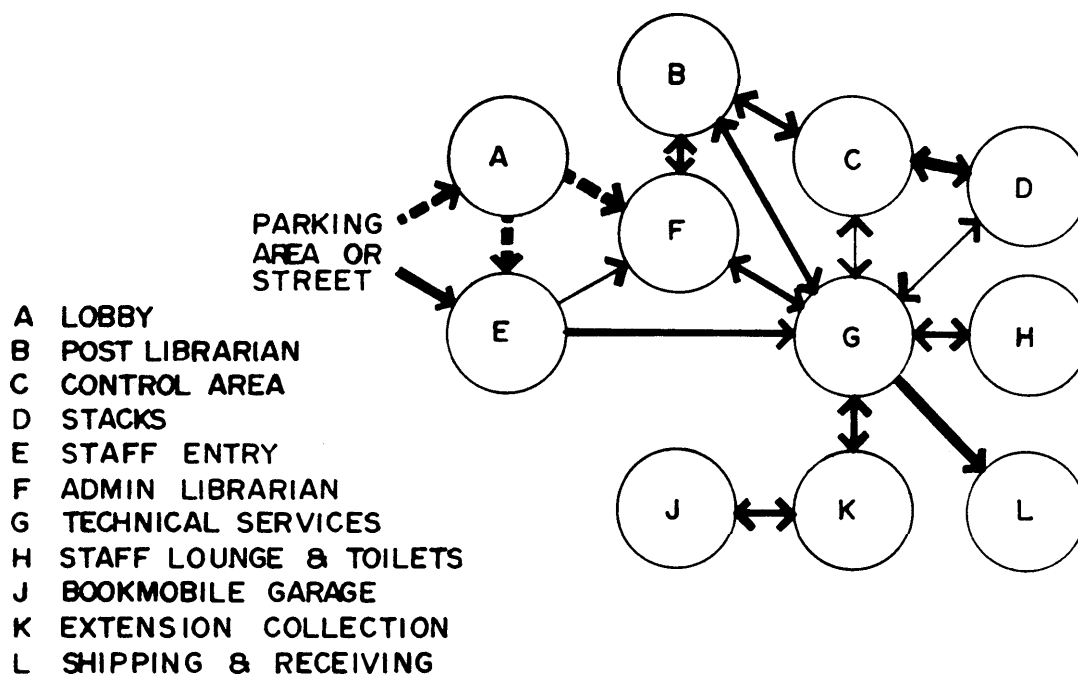


FIGURE 6-23



## 6-6 ILLUSTRATIVE CRITERIA APPLICATION

a. GENERAL. To illustrate the application of the foregoing criteria and principles, example designs for a 30,000 GSF MAX library are developed in this chapter. The first and most developed example is followed by five alternative designs which illustrate the effects of different site and climate conditions on space organization principles.

### b. EXAMPLE DESIGN DEVELOPMENT

#### (1) Planning Data.

(a) *Military Strength*. The example design is located on a hypothetical post with a military strength of 22,000. (This military strength is authorized a main library of 30,000 GSF maximum by DOD).

(b) *Total Population*. The total population of the post is 44,000 (military, retired, and dependents).

(c) *Staffing*. As furnished by the Administrative Librarian, the actual personnel slots authorized for the main library are shown in Table 6-28.

**TABLE 6-28 EXAMPLE STAFFING FOR POST  
POPULATION OF 44,000**

8 Professionals:	Location:
1 Administrative Librarian	Private Office
1 Supervisory (Post) Librarian	Private Office
1 Technical Services Librarian	Technical Services
1 Cataloger Librarian	Technical Services
2 Reference Librarians	Reference Area
1 Extension Librarian	Extension Collection
1 Children's Librarian	Children's Area
13 Non-Professionals:	Location:
1 Administrator's Clerk-Typist	Technical Services
3 Clerk-Typists	Technical Services
4 Library Technicians	Technical Services
4 Library Technicians	Control Desk/Reference Desk
1 Warehouseman	Shipping/Receiving

(d) *Basic Collection and Auxiliary Materials*. Table 6-29 gives the breakdown for the actual basic and auxiliary collection at the post, as determined by the administrative librarian.

**TABLE 6-29 BASIC AND AUXILIARY COLLECTION**

Basic Collection	
Bound Volumes (Adult Collection)	59,000
Reference Volumes	5,100
Auxiliary Materials	—
Documents and Pamphlets	
Microfilm	3,000
Microfiche	3,000
Newspaper, Unbound	15
Newspaper, Bound	1,275
Periodicals, Unbound	300
Recordings	2,000
Maps	1,000
Slides	.
Total Collection	74,690

(e) *Extension and Bookmobile Services*. One bookmobile will be operated from the main library. The total extension collection will include approximately 10,000 volumes.

(2) *Space Allocation*. Based upon the program data stated above and utilizing unit area allowances covered in Chapters 2 and 3, space requirements can be developed for the collection, seating, services, and basic areas.

(a) *The Collections (Basic and Auxiliary)*. Space requirements for the collection are derived by dividing the total number of items of each type (bound volumes, maps, etc. ) by the number of volumes per storage unit to obtain the number of storage units. The number of storage units must then be multiplied by the NASF/unit to obtain the total area required, as shown in Table 6-30. All shelf units are considered as single-faced sections for this computation.

**TABLE 6-30 SPACE REQUIREMENTS FOR  
EXAMPLE COLLECTION**

Type of Material	Quantity	Items/ Unit	No. of Units	NASF/ Unit	Total NASF
Control Desk Recordings	2,000	500	4	17	68
Subtotal					68
Reference Area					
Reference Vols.	5,100	75	68	10	680
Maps	1,000	1,000	1	40	40
Subtotal					720
Periodicals Area					
Microfilm	3,000	400	8	11	88
Microfiche	3,000	10,000	1	11	11
Newspapers, Unbound	15	7	3	13	39
Periodicals, Unbound	300	15	20	10	200
Subtotal					338
Stack Area					
Bound volumes	59,000	125	479	9	4,311
Bound newspapers	1,275	9	142	11	1,562
Subtotal					5,873
Total NASF Basic and Auxiliary Collections					6,999

(b) *Seating.* Based on the unit area allowed in Chapter 2 (total SF for adult collection  $\times 1.15 \div 30$  SF/seat), approximately 305 seats are required. The seats are distributed in accordance with Table 6-31.

(c) *Services.* Space requirements for services are derived as shown in Table 6-32 by computing the required area for each function based on the consideration and factors developed in Chapter 4, Individual Space Criteria.

**TABLE 6-31 SPACE REQUIREMENTS FOR ADULT SEATING**

NASF/ seat	Type of Seat	Multi- Purpose Room	Refer- ence Area	Perio- dicals Area	Reading & Study Areas	Typing & Listening Booths	Total
25	Open Tables		30		60		90
30	Small Carrels				60		60
40	Research Carrels						
40	AV Carrels			4			4
30	Typing Booths					5	5
30	Lounge Chair	10		41	60		111
25	Small Group Seating		30				30
Total Seats		10	60	45	180	5	300
Total NASF		300	1500	1510	5100	150	8560

TABLE 6-32 SPACE REQUIREMENTS FOR SERVICES

Item	Units	NASF/ Unit	NASF
Multi-Purpose Room			
Conf. Table, Chairs	10	25	250
Portable Seating	20	20	400
Storage			50
Subtotal Multi-Purpose Room			700
Public Toilets			
Men's WC	6	25	150
Men's Urinals	3	25	75
Men's Lavatory	6	15	90
Women's WC	6	25	150
Women's Lavatory	6	15	90
Subtotal Public Toilets			555
Public Card Catalog (65,000 vol. ÷ 3,000 vol/unit)	22	17	374
Subtotal Public Card Catalog			374
Reference Area			
Reference Librarian	2	150	300
Subtotal Reference Area			300
Children's Area			
Collection (20,000 vol. ÷ 85 vol/unit)	235	11	2585
Seating (25% x 2561 SF = 640 SF)	32	20	640
Children's Librarian	1	125	125
Children's Toilets	2	50	100
Cushions	20	15	300
Storage (2% Total NASF)	1	75	75
Card Catalog (20,000 vol ÷ 30,000 vol/unit)	7	17	119
Subtotal Children's Area			3944
Extension Collection			
Shelving, Movable (60,000 vol. ÷ 250 vol/unit)	24	10	240
Extension Librarian	1	120	120
Subtotal Extension Collection			360

Technical Services			
Work Stations	10	100	1000
Shelf List	5	17	85
Book Index	2	50	100
Supply Cabinet	1	20	20
Drafting Table	1	125	125
Work Table	12	5/LF	60
Shelving, Movable (4,500 vol. ÷ 300 vol/unit)	15	12	180
Subtotal Technical Services			1570
Total NASF			7803

(d) *Basic Space Requirements.* From the individual requirements tables in this chapter for a 30,000 SF library, the basic space requirements are obtained for the spaces listed in Table 6-33.

TABLE 6-33 BASIC SPACE REQUIREMENTS

Entrance and Lobby	500
Control Area	458
Administrative Librarian	150
Post Librarian	120
Shipping and Receiving	320
Staff Lounge	495
Staff Washrooms & Lockers	168
Janitor's Closet	100
Bookmobile Garage	450
Total NASF	2761

(e) *Summary of Space Requirements.* Table 6-34 summarizes space requirements for the staff, the collection, seating and other activities by type of space. The description of each of these requirements can be found in this chapter. Finally, the total requirements for each space are listed in the last column.

(3) *Site Characteristics.*

(a) *Topography.* The site is flat except near the street intersection where it slopes gently to the southeast. (See Fig. 6-25.)

TABLE 6-34 EXAMPLE TOTAL SPACE REQUIREMENTS

Space	Collection	Seating	Services	Basic	Total
Entrance and Lobby				500	500
Multi-Purpose Room		300	700		1,000
Public Toilets			555		555
Public Card Catalog			374		374
Control Area	68			458	526
Reference Area	720	1,500	300		2,520
Periodicals Area	338	1,510			1,848
Children's Area			3,944		3,944
Stack Area	5,873				5,873
Reading and Study Area		5,100			5,100
Typing & Listening Booths		150			150
Administrative Librarian				150	150
Supervisory (Post) Librarian				120	120
Extension Collection			360		360
Technical Services			1,570		1,570
Shipping & Receiving				320	320
Staff Lounge				495	495
Staff Washrooms & Lockers				168	168
Janitor's Closet				100	100
Bookmobile Garage				450	450
Total NASF	6,999	8,560	8,147	2,761	26,123 NASF
Approximate Size of Library	26,123		$\times 1.15 =$		30,041 GSF
Approximate Size of Mech Room			$=$		1,200 GSF
Total Building Requirement			$=$		31,241 GSF

(b) *Area Available.* The site consists of approximately 5 acres, which is adequate for a single-story building and parking.

(c) *Climate.* This installation is located in a temperate climate, with an outdoor design temperature of 88 degrees F in summer and 8 degrees F in winter.

(d) *Utilities.* Electrical power and water and sewage lines are available along the southern edge of the site.

(e) *Vegetation and Unique Features.* A row of evergreen trees is located perpendicular to the east-west street and can serve as a windbreak against the cold winter winds. Scattered deciduous trees, located in the corner of the lot, can provide shade in the summer.

#### (4) *Functional Layout.*

(a) *Functional Grouping.* Figure 6-17 is a diagrammatical interpretation of the basic adjacency relationships which are required in all main libraries. These are developed in greater detail in Figures 6-18, 6-19, and 6-20 which depict functional groups for general use, public

service and staff.

An obvious architectural form is suggested for the building, comprising three major functional groupings:

- Stack, reading, and reference spaces
- Technical processing and staff spaces
- Multi-purpose, toilets and mechanical space

Functions that must serve two of the three major groupings—the lobby and the card catalog/control area—can be juxtaposed between the groupings to which they relate. The primary modification to this basic layout is the insertion of the multi-purpose room adjacent to the staff lounge and in proximity to the reading and study area to enhance its two functions as a public meeting room and a reading and study area. Another modification to the basic scheme is the identification of the children's area as a separate entity connected to the main post library only at the lobby. This scheme is shown in Figure 6-24, Functional Requirements Diagram. In this diagram, the actual area requirements are shown proportionately, and organized so as to conform to the adjacency relationships listed in Table 6-27.

## FUNCTIONAL REQUIREMENTS DIAGRAM

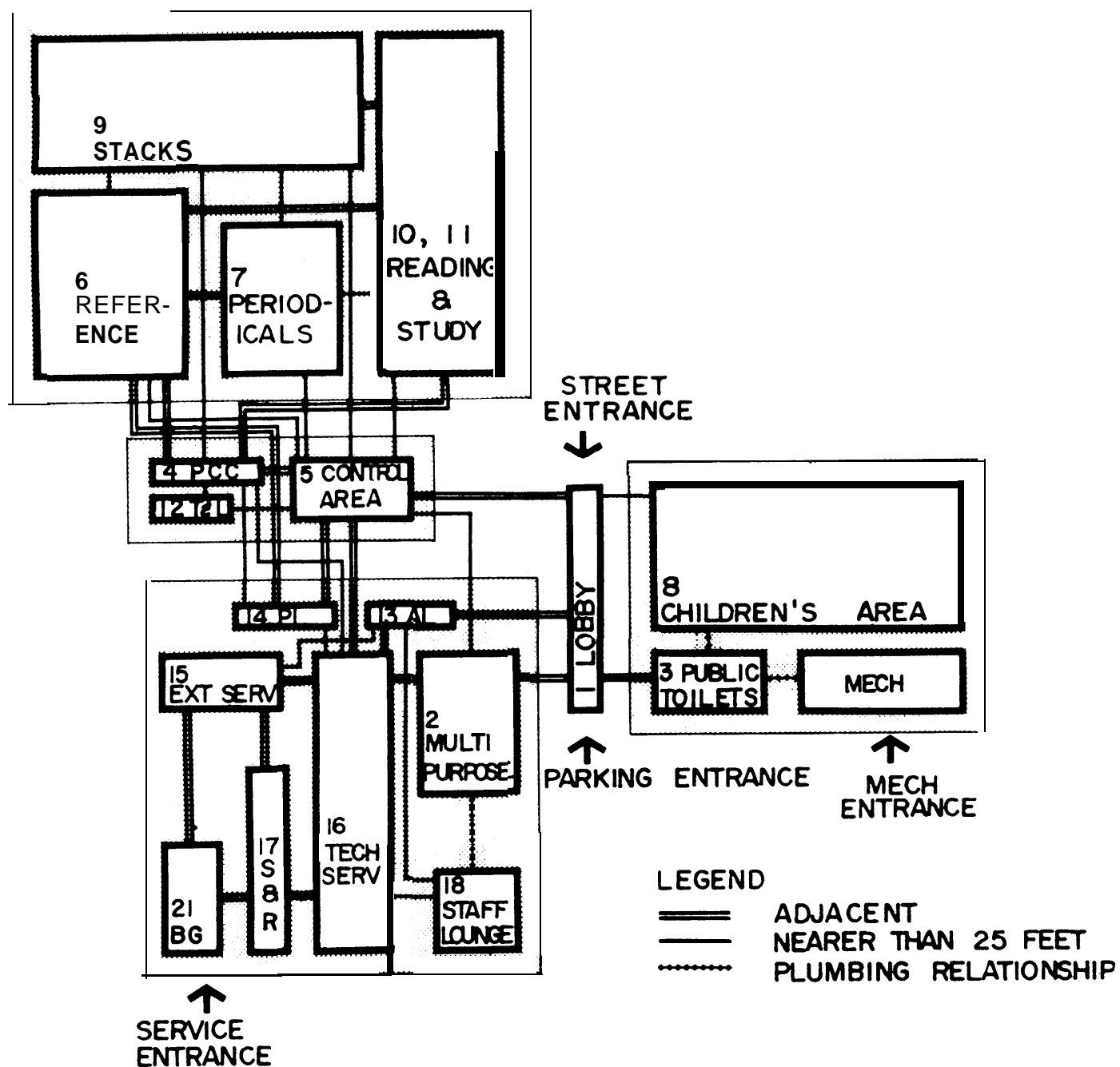


FIGURE 6-24

(b) *Circulation.* Spaces can be arranged within the three major groupings to conform to the flow of users, materials and staff diagrammed in Figures 6-18, 6-19, and 6-20. The spaces most likely to be used by the physically handicapped such as the toilets, children's areas, multi-purpose room, card catalog, and listening booths, may be located directly adjacent to the major circulation areas (i.e., the lobby and control area).

(c) *Acoustic Privacy.* The arrangement of the building into three major groups separated by the circulation areas accomplishes most of the requirements for acoustic isolation shown in Table 6-27. Within the groups, the staff lounge is the only space requiring further isolation. This can be handled by locating it in a corner away from other activities and applying acoustic barriers, if necessary.

(5) *Site Constraints.* The flat, ample site offers no constraints to the building layout. The building may be sited within the existing tree cover to control sun and wind expo-

sure; the axis of the building can be oriented east and west to minimize energy consumption. The mild climate imposes no further constraints on the shape of the building, allowing development in an ideal functional form, with ample opportunity to freely develop indoor/outdoor connections and site support items. (See Fig. 6-25.)

(6) *Visual Control.* Visual control can be achieved by situating the main collection and reading areas in a large open room and locating the control area as a connecting space between the collection area and the lobby. This allows the control area personnel to monitor activities in the stack and reading areas, as well as the multi-purpose rooms, toilets, and exits.

(7) *Modular Layout.* By virtue of the large, open areas, the spaces and buildings can be readily organized into 30-feet by 30-feet structural modules, allowing for possible change in use and for expansion. This is expressed in Figure 6-26. Spaces requiring plumbing or separate heating and air conditioning zoning are clustered.

### EXAMPLE SITE PLAN

SOUTH-SOUTHEAST SUMMER BREEZES

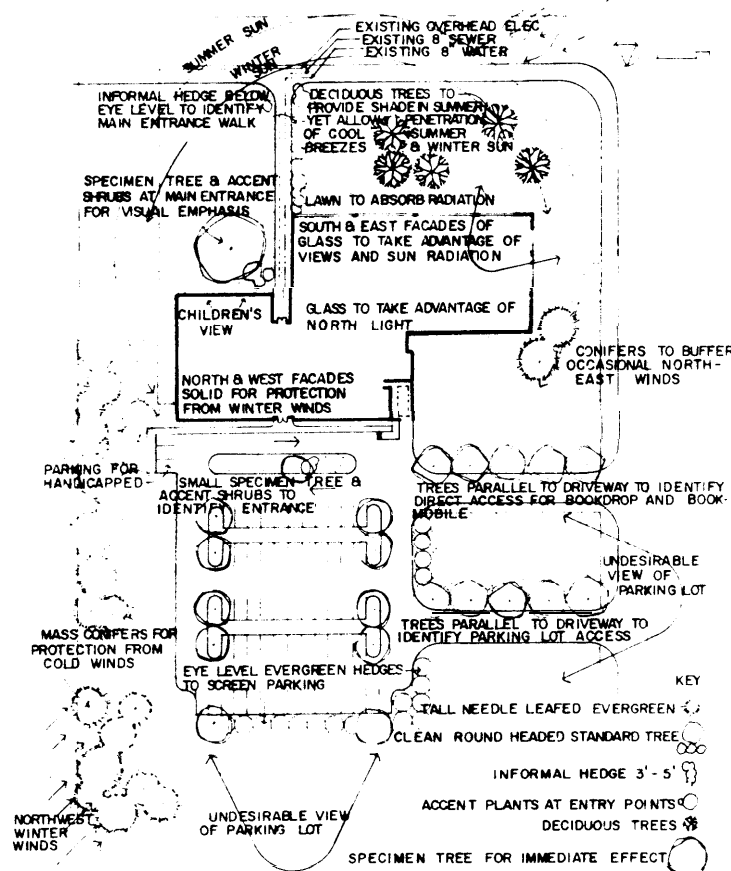


FIGURE 6-25

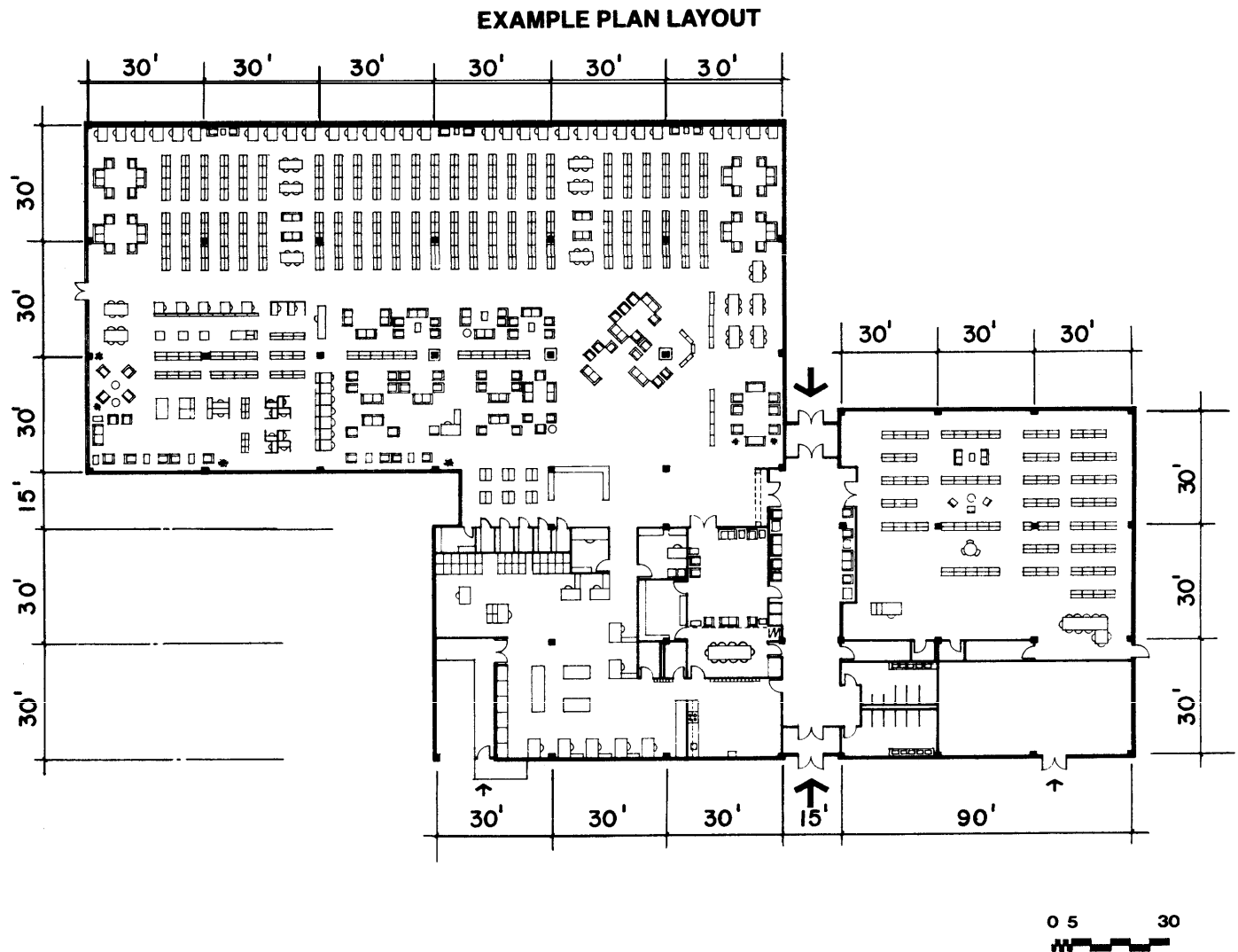


FIGURE 6-26

**c. EXAMPLE DESIGN NO. 2, 30, 000 GSF LIBRARY**

(1) *Planning Data.* The mission, staff and collection requirements in this example are the same as in example design No. 1, paragraph b(1) above.

(2) *Space Allocation.* The space allocation requirements in this example are the same as in example design No. 1, paragraph b(2) above.

(3) *Site Characteristics.*

(a) *Topography.* The site is flat and narrow with street access on the short north side. Adjacent buildings block views. Size of the lot is barely adequate for the library and a small parking lot.

(b) *Climate.* The climate is hot and dry in summer, cold in winter. Vegetation is sparse with intense radiation and high cooling loads in summer.

(4) *Functional Layout.* The building can be organized into the same functional grouping as shown in Figure 6-24. All staff areas can be grouped for maximum operational efficiency and the general use areas can be grouped around the lobby to afford convenient control of after-hours utilization. Circulation must be provided from the lobby through the control area to the stack and reading areas. Acoustical privacy can be achieved by interposing

circulation and storage space between the functional groups and providing acoustical barriers where required.

(5) *Site Constraints.* The long, narrow site forces Figure 6-24 to be modified into a similar configuration. Since both the street and the parking and driving area must be confined to the north side of the building, the entrance, the bookmobile garage, and the mechanical equipment room must be located there. The resulting functional requirements diagram locates both the staff and general use groups on the street side, separated by the lobby, with large stack and reading areas in the rear, isolated from street noise. The hot, dry climate would require a southerly exposure on a larger site, but this is impossible here. Protection from the sun can be furnished by large trees and planting the east and west sides and minimization of windows.

(6) *Visual Control and Interest.* Visual control can be achieved using the same principles as in example design No. 1. Visual interest can be provided by windows opening to a small landscaped courtyard along the east side of the building.

(7) *Modular Layout.* As in example design No. 1., the spaces may be organized within 5-foot by 5-foot modules and 30-foot by 30-foot or 25-foot by 30-foot structural bays. This is expressed in Figure 6-27. Spaces which are unlikely to change or require permanent partitions, such as the toilets, mechanical equipment room, and bookmobile garage, are clustered to allow the remainder of the library to be flexible to changing requirements and expansion. Spaces which may operate during off-hours or limited hours are clustered to permit zoning of heating and air-conditioning. Spaces requiring plumbing are grouped together for economy.

FLOOR PLAN. EXAMPLE DESIGN NO. 2

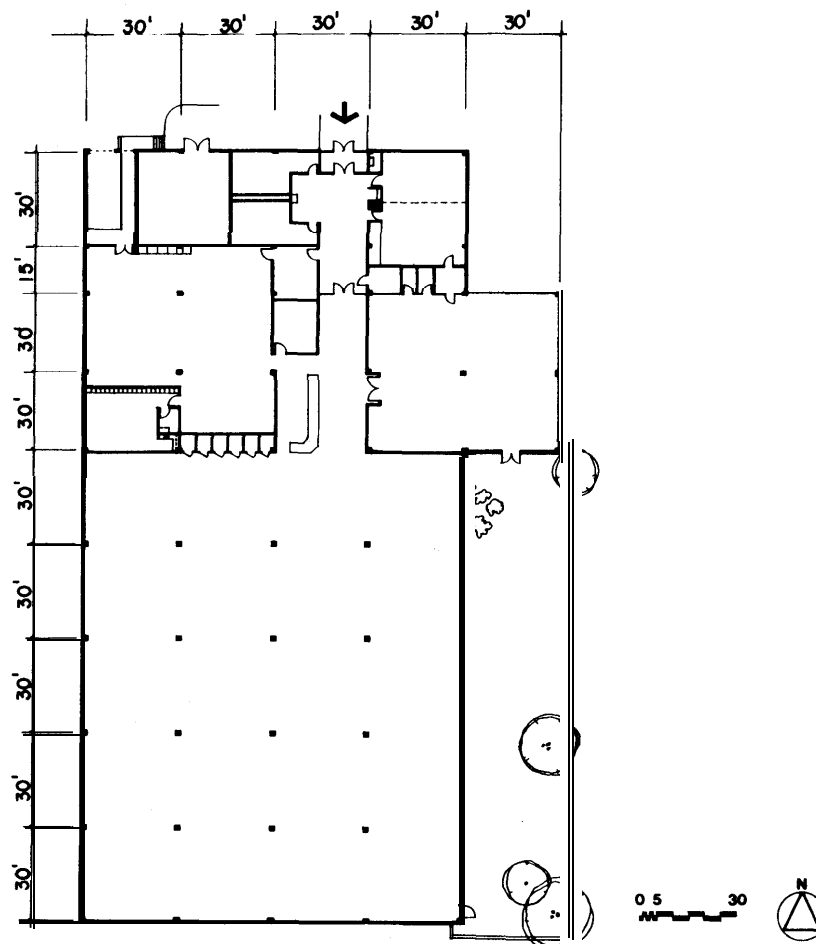


FIGURE 6-27



#### d. EXAMPLE DESIGN NO. 3, 30,000 GSF LIBRARY

(1) *Planning Data.* This mission, staff, and collection requirements in this example are the same as in example design no. 1, paragraph b(1) above.

(2) *Space Allocation.* The space allocation requirements in this example are the same as in example design No. 1, paragraph b(2) above.

##### (3) *Site Characteristics*

(a) *Topography.* This building is on a large corner site, sloping gently to the east. The view to the east is of World War II temporary barracks. On the rise to the west is a gun emplacement dating from 1842, a focal point of post ceremonies and esprit de corps.

(b) *Climate.* As in example design No. 2, the climate is hot and dry in the summer and cold in the winter.

(4) *Functional Layout.* The building can be organized into the same functional grouping shown in Figure 6-24. All staff spaces can be grouped for maximum operational efficiency and the general use areas can be grouped around the lobby for control of after-hours utilization. Circulation must be provided from the lobby through the control area to the stack and reading areas. Acoustical privacy can be achieved by interposing circulation and storage space between the functional groups and providing acoustical barriers where required.

(5) *Site Constraints.* The climate and unattractive views suggest an inward oriented facility. Figure 6-24 can be revised to organize the public use spaces around a central courtyard. The desirability of not obscuring or detracting from the historic site suggests that the building can be set into the slope, which will also benefit from the insulation of the earth.

(6) *Visual Control and Interest.* Visual control can be achieved using the same principles as in example design No. 1. Visual interest is achieved by windows opening onto the courtyard and by the succession of spaces and focal points which occur as the user moves through the lobby, turns at the control desk, walks past the courtyard, and turns again into the large reading and study area.

(7) *Modular Layout.* As in the preceding examples, the spaces can be organized into 5-foot by 5-foot modules. Because of the effect of the site on the layout, the structural grid is less uniform than in other examples. The 30-foot bay spacing can be maintained in the stack area. As in the other examples, the general use group and spaces requiring plumbing are clustered for economy. (See Fig. 6-28.)

FLOOR PLAN, EXAMPLE DESIGN NO. 3

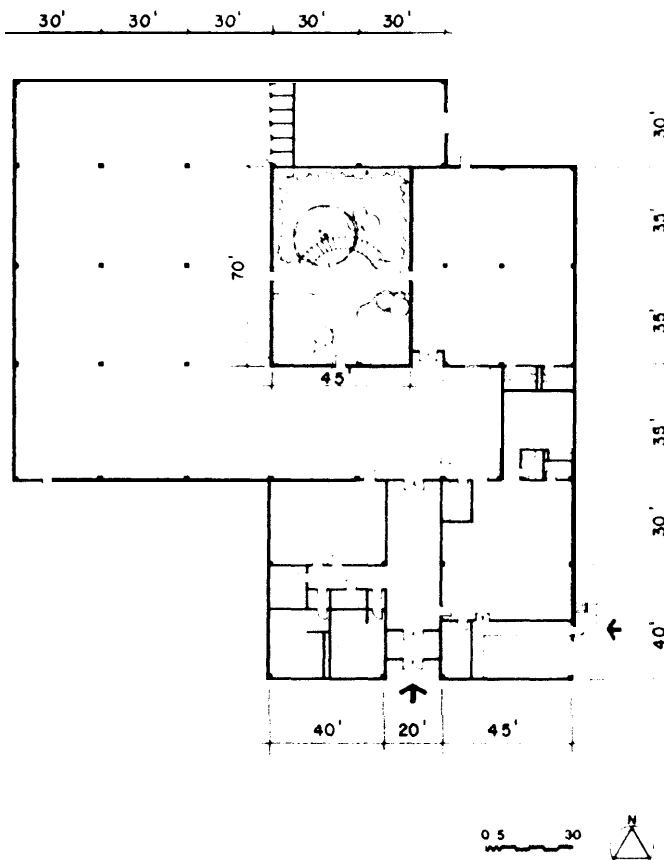


FIGURE 6-28

## e. EXAMPLE DESIGN NO. 4, 30,000 GSF LIBRARY

(1) *Planning Data.* The mission, staff, and collection requirements in this example are the same as in example design No. 1, paragraph b(1) above.

(2) *Space Allocation.* The space allocation requirements in this example are the same as in example design No. 1, paragraph b(2) above.

(3) *Site Characteristics.*

(a) *Topography.* The site is flat and very small, defined by a new GED Center on the west, a primary thoroughfare on the north, and a secondary road on the east. The existing parking for the GED Center is to be extended to accommodate the library patrons.

(b) *Climate.* The climate is hot and humid and subject to occasional hurricanes.

(4) *Functional Layout.* Staff spaces are grouped for operational efficiency. General use areas are grouped around the lobby for after-hours control. The street entrance opens directly to the control area for use during

normal hours. The lobby opens to the parking lot, rather than the street, to accommodate the majority of users during normal hours and after-hours. Public toilets are stacked on two floors for convenience and economy.

(5) *Site Constraints.* The limited site area requires a two story scheme. The reading and stack group is slightly larger than the combined area of the other spaces so the periodicals area and some reading and study space are located on the ground floor with the staff and general use groups. The adult stack and reading areas are on the floor above

(6) *Visual Control.* Visual control of reading/stack and general use areas is impossible from a single station in a two-story scheme. The control desk, therefore, controls the first floor and the reference librarian controls the second floor.

(7) *Modular Layout.* The layout conforms to the 5-foot by 5-foot module (See Fig. 6-29.)

FLOOR PLAN, EXAMPLE DESIGN NO. 4

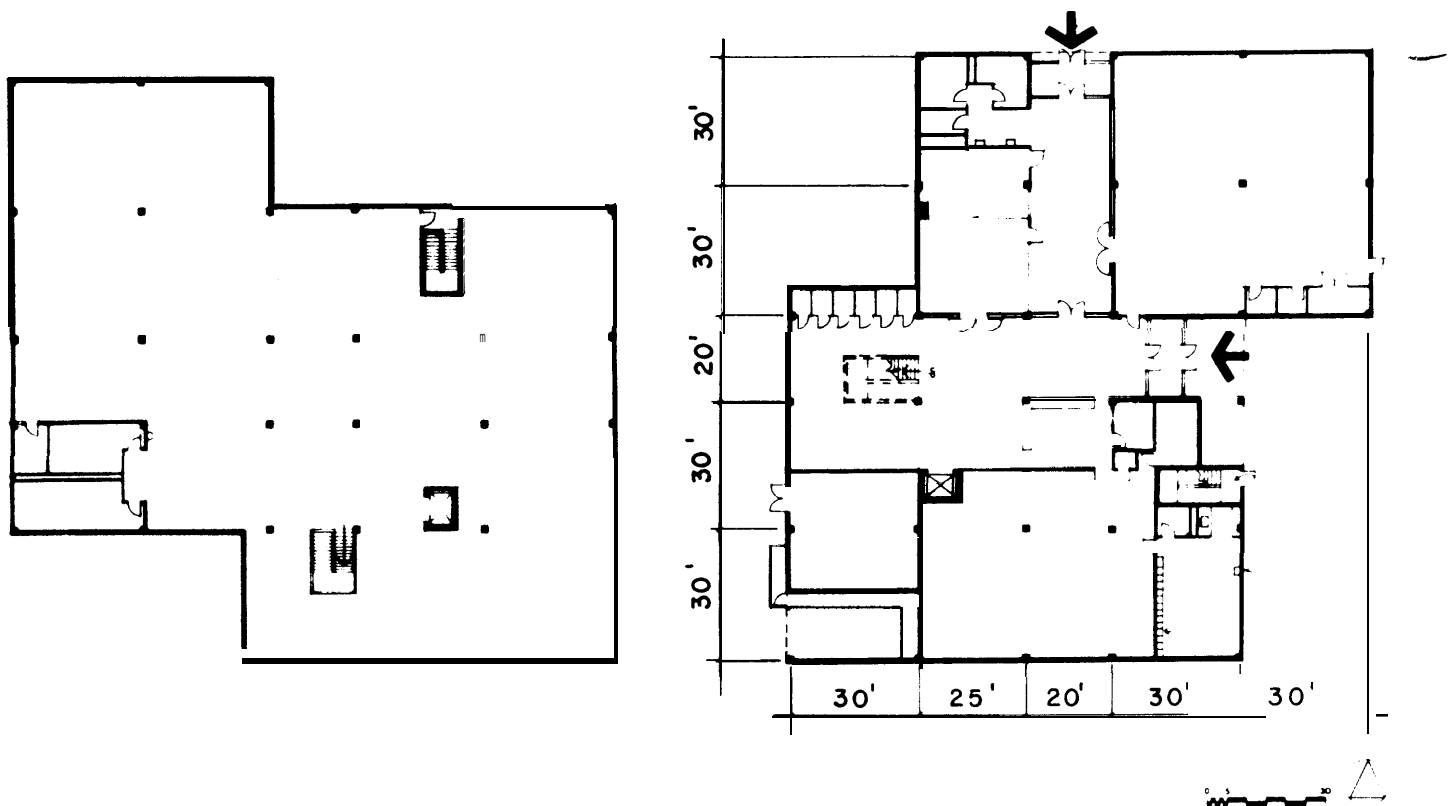


FIGURE 6-29

## f. EXAMPLE DESIGN NO. 5, 30,000 GSF LIBRARY

(1) *Planning Data.* The military strength and total population at this post are presently the same as in example design No. 1; however, the post has been increasing its mission and strength for a number of years as a result of army consolidations and is expected to continue slow growth in the future.

(2) *Space Allocation.* The space allocation requirements in this example are the same as in example design No. 1, paragraph b(2) above.

(3) *Site Characteristics.*

(a) *Topography.* The library is located in an area designated as a community center on the master plan. The area is undergoing development from its previous function as a barracks area. The site is flat, but constricted by nearby buildings. Most of these buildings will be demolished as the community center is developed. This will take several years, by which time the library may require expansion.

(b) *Climate.* The post is located in the Midwest and has a temperate climate.

(4) *Functional Layout.* The building can be organized into the same functional grouping shown in Figure 6-24. All staff spaces can be grouped for maximum operational efficiency, and the general use areas can be grouped around the lobby for convenient control of after-hours utilization. Circulation must be provided from the lobby through the control area to the stack and reading areas. Acoustical privacy can be achieved by interposing

circulation and storage space between the functional groups and providing acoustical barriers where required.

(5) *Site Constraints.* The site constraints are similar to those of example design No. 4. A two-story inward-oriented facility is required, which will accommodate future expansion. To assure that expansion of library functions can occur simultaneously, spaces which are dedicated and unlikely to change should be clustered at the center of the building and spaces which are most likely to expand should be at the perimeter. This suggests a central lobby with adult and children's stacks, reading, and technical services areas against exterior walls. A scheme can be evolved such as shown in Figure 6-30. The upper floor should slightly overhang the ground floor to shield it from the high summer sun and expose it to the low winter sun.

(6) *Visual Control and Interest.* Visual control can be achieved by applying the principles expressed in design example No. 4. The building bulk and exterior exposure must be minimized, so a central courtyard is impractical. Visual interest can be supplied by means of a skylighted central gallery which acts as the main circulation space for both floors.

(7) *Modular Layout.* To assure future expansibility, a constant 30-foot by 35-foot structural grid can be used throughout the building, except for the 20-foot wide central gallery. Those functions which may operate during off-hours are grouped to permit separate zoning of heating and air conditioning. The toilets and other spaces requiring plumbing are clustered for economy.

FLOOR PLAN, EXAMPLE DESIGN NO. 5

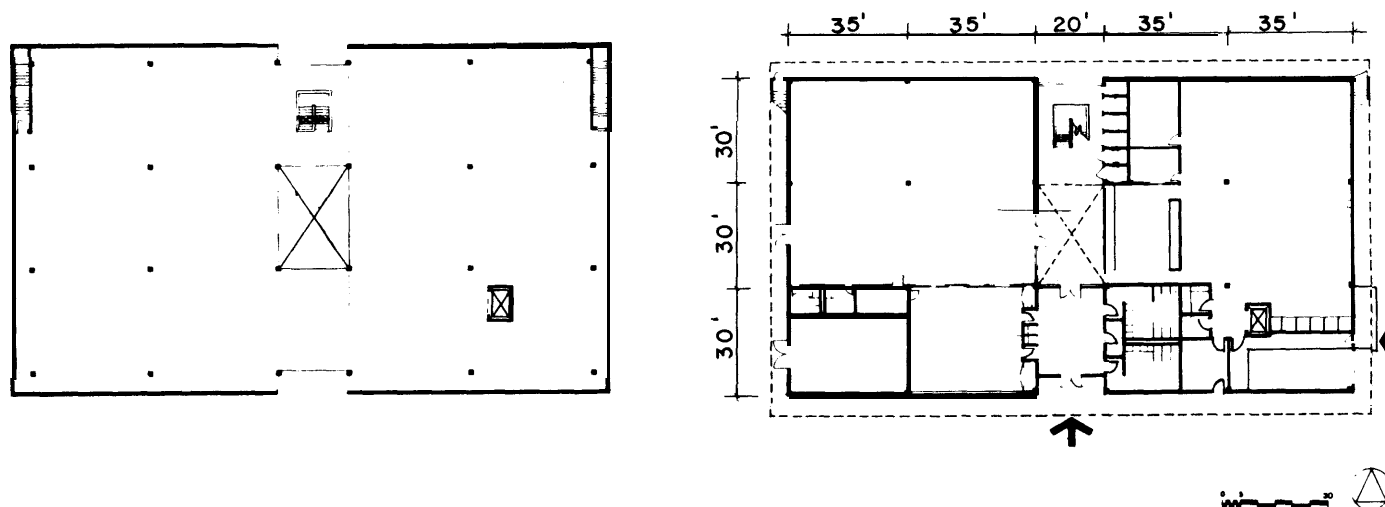


FIGURE 6-30